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ABSTRACT

In terms of women's activities outside the home, a steady trend of expansion has existed in both quantitative and qualitative respects over the last decade. Evidence justifies encouraging girls to pursue longer vocationally-oriented studies in a wider range of occupational areas, since evidence points to the possibility that from one-in-three to one-in-five girls sitting in today's classrooms throughout the world will either wish to, or have to, work in adulthood (whether married or single). The evidence does not justify using outdated concepts of innate psychological or physiological sex difference as a basis for continuing to designate sectors or specific employment or home tasks as "male" or "female." Hence, sex segregation of vocational preparation is equally unjustified. The questions raised for educators by this changing and constantly developing social and economic pattern affect not only the structure but the content of educational preparation of girls and boys for work, home, and civil life. Strong arguments exist for educators of each nation, in direct collaboration with their colleagues responsible for family law reform, social services, and welfare, to look at the educational preparation of their people for employment and for work of an unpaid nature that is, nonetheless, civically and economically important. The strong impression given by the collective educational, social, and economic evidence is that there is a mismatch of educational objectives and demands of the labor market that might be in danger of widening, not narrowing, the sex gap, if not corrected. (KC)

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TECHNICAL AND VOCATIONAL EDUCATION FOR WOMEN - THE WAY AHEAD

By Dr. Eileen M. Byrne

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PREFACE

This report focuses on the position of girls and women in technical and vocational education in the world, their problems of access and advancement and on possible measures to improve their knowledge, skills and entry to a wider range of vocational outlets.

Clearly, however, it is impossible to do justice to the variety, intensity and scale of problems and remedies on a world canvas, in a simple paper, without the resources moreover for special diagnostic or research-based structured enquiries. The working document is therefore necessarily selective. Some themes are selected as universally applicable, others because they are seminal in nature. The subsequent selection of specific countries as illustrative examples, rather than as comparative study, has been either because the evidence is seen as typical or transferable; or because it illustrates a wider theme; or because extensive and research-based survey data is exceptionally available for that country which provides evidence of transferable problems or transferable models.

Definitions

For the purpose of this report, Unesco definitions of technical and vocational education apply, viz:-

(a) technical education (enseignement technique)

Education designed at upper secondary and lower tertiary levels to prepare middle-level personnel (technicians, middle management, etc.) and at university level, to prepare engineers and technologists for higher management positions. Technical education includes general education, theoretical, scientific and technical studies and related skill training. The components of technical education may vary considerably depending on the type of personnel to be prepared and the education level.

(b) vocational education (enseignement professionnel)

Education designed to prepare skilled personnel at lower levels of qualification for one or a group of occupations, trades or jobs. Vocational education, usually provided at upper secondary level, includes general education, practical training for the development of skills required by the chosen occupation and related theory. The proportions of these components may vary considerably but the emphasis is usually on pratical training.

(Terminology of technical and vocational education: UNESCO/IBEDATA 197

The writer would like to express her appreciation of the opportunity afforded by Unesco to contribute to this Congress and her thanks for help from many countries in obtaining documentation.

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> "We must think positively about how the position of women in their own societies and in international affairs could not only be improved, but their large potential contribution be better utilised for the benefit of all."
>
> Kurt Waldheim, UN Secretary-General,
> 1975, International Women's Year.

I. INTRODUCTION AND THEMES

1.1 The Congress for which this paper is prepared, is focussed on the contribution which technical and vocational education for women can make to enable this "large potential contribution" of women to become a reality. The commitment of Unesco to the achievement of equality in education and training for women, and thereby to their full participation in economic development, is indeed as decisive as it is longstanding. Recognising especially the particular causal relationship between equal access to the full range of skilled education and training in technical, industrial, commercial, social and administrative fields, on the one hand, and improved prospects in employment and in economic development on the other, Unesco has given particular priority to the improvement of technical and vocational education over the last two decades. Education has indeed traditionally been the major life chance in opening up opportunities for individual advancement and fulfilment in the adult world, but rarely has there been a time when the causal relationship between education and economic national development has been so sharp. The major educational resources which remain underexploited are the brains and skill of the 51% of the world's population who are women. The main area of their continued underachievement, is in vocational and technical education for an economic role external to the home, for decision-making in their country's leadership, and for community development in their home area.

Equality between the sexes - not women's affairs

1.2 While this paper sets out to illustrate the present trends and prospects in the technical and vocational education of girls and women it can only do so by looking also at the social, cultural, economic and political barriers to their equal access to the full education and training offered to boys and men. To look solely at educational or pedagogic aspects of current policies is to ignore the real and root causes of educational inequality (sometimes of educational discrimination) which lie more in tradition and culture, and in social expectations of different sex-roles for women and for men in adulthood, than in purely educational organisation or in pedagogy. Nor can the education and training of girls and women be seen without similarly looking at the different objectives and opportunities planned for and characteristic of boys and men. Equality for women must of necessity mean adjustment also by men to a changing family, social and professional role for themselves. The now worldwide pressing need for girls and women to improve their access to and their achievements in technical and vocational education in particular is no longer only a "women's issue". Nor is it only a matter of social class equality (for it is predominantly the middle and upper class women who have achieved a more significant degree of equality so far). It is, least of all, solely an educational issue. A Chinese proverb reminds us that "Women hold up half the sky", and unquestionably, half of the world's brains are in female skulls. The sky will not perhaps fall if women continue to under-achieve and to limit their intellectual, creative and practical skills to home-making; but the world's economy, its social harmony and its political efficiency, will. In the words of one international expert speaking of the social and economic development of women's employment for the rest of this century,

> "La transition d'un siècle à l'autre ne se fera bien qu'avec les femmes; si elle se fait sans les femmes, elle sera ratée; ce sera un rendez-vous manqué avec l'histoire." (1)

It is precisely the barriers which hinder girls and women from contributing to this economic, social and political world development which lie at the heart of this Congress debate.

1.3 Concurrently with the evolving debate over the last decade on the educational deprivation of girls, has developed a growing unease and ambivalence over an even more basic mismatch between the non-vocational objectives to which educators tend to attach continuing priority ("we educate for life, not livelihood") on the one hand, and the desire of parents, pupils and the community served by teachers, schools and colleges on the other, for an educated school-leaver to be prepared for the realities of the labour market. At one extreme, it is being argued that the high (university) graduate unemployment in Europe and the high unemployment rates of secondary school diplomates in countries like Sri Lanka, India, Botswana on the other, is a reason to cease "over-educating" young people and to return to skills training and work-oriented education as a safe route to known job outlets. This is an over-simplification - there is no vocational or technical trainee who is not the better for having also a soundly developed intellect; and scientists and technologists need an understanding of the social and humanitarian setting in which to set their practical education. Nor are the traditional job outlets either there or still relevant, often. At the other extreme, it is argued that the excessive premature specialisation of sector-based vocational schools, especially those requiring strict vocational choices in the lower secondary years, creates a further mismatch because of swiftly changing technology, recession industries and fluctuating labour market structures, and that only a generalised education is a safe basis for survival. This in turn can underestimate the transfer value of acquired technical, business and craft skills in any retraining programmes. The answer lies somewhere in between, and the definition of this balance is at the centre of current international concern.

1.4 In the 1980's moreover the relationship will become more complex and more ambivalent. On the one hand, the future citizen of all countries, whether developed or developing, will need to form part of a labour force with a generally higher level of understanding of the natural and of the technological world in which she or he lives; and proportionately more of these will need technician rather than craft level training to match the changing employment structures of many countries. But simultaneously we are facing higher adult unemployment and a disproportionately escalating rate of youth unemployment, among those who either lack qualifications or possess irrelevant ones. Simultaneously, the 1970's have seen a sharpening of the controversy of whether the educational objectives planned for girls (all girls) should, or should not, be different from those planned for boys (all boys). The debate has come to a head in the dual urgency of the worldwide youth unemployment crisis and the equally worldwide pressure for equality of education for girls, including the suggested reallocation of some of the present rationed vocational education and training places to the girls, without which they are denied their share of such employment opportunities as do continue to exist. Both educators and employers are therefore asking for what are they to educate girls and boys? The purposes, aims and objectives of schools and colleges are under scrutiny more sharply than ever before; including by the young people themselves. What this paper seeks to establish unequivocally, is that for the first time educational planners need to structure their courses, provision and hence, their prior objectives, without any differentiation on grounds of sex, if equality in the home and in the labour market is to result, whatever the particular characteristics of that labour market.

Definition of equality - equal means the same

1.5 It will become evident as this paper develops, that almost all educational planners have in the past planned and organised their schools and curricula on the basis that at various points in the educational process, the education of (all) girls should be different from the education of (all) boys. This is however now held to be incompatible with the basic principle of equality. This paper is based on the premise that equal means the same, and that any differentiation of curricula should be on the basis of diagnosed, assessed, and individual differences in ability or aptitude. To differentiate by classifying groups of pupils as different (by race, sex, rural or urban status), will by definition disadvantage those within the group who do not conform to the "norm" or average of the classification. That equal means the same has been debated and approved by some of the international organisations for over a decade, and it is important to restate these standards to which many nations have committed themselves in principle already. They form a yardstick against which to measure the actual equality of access of girls and women to technical and vocational education over the last decade, and at the present time, and represent an important aspect of the changing trends over the 1970's, which now provide a planning basis for the 1980's and they form a precise check-point to measure the difference between formal and actual equality.

1.6 In 1967 the United Nations General Assembly in its Declaration on the Elimination of Discrimination Against Women (Article 9) resolved that:

> "All appropriate measures shall be taken to ensure to girls and women, married or unmarried, equal rights with men in education at all levels, and in particular: (a) equal conditions of access to and study in educational institutions of all types, including universities and vocational, technical and professional schools; (b) the same choice of curricula, the same examinations, teaching staff with qualifications of the same standard and school premises and equipment of the same quality whether the institutions are coeducational or not; (c) equal opportunities to benefit from scholarships and other study grants; (d) equal opportunities for access to programmes of continuing education, including adult literacy programmes and (e) access to educational information to help in ensuring the health and well-being of families." (2)

The principle is here stated publicly, that the most fundamental principle of equality, the same choice of curricula, should apply whether the institutions were single sex or coeducational. There is a clear corollary that equality should transcend structure and organisation.

1.7 At the seventeenth session of its General Conference held in 1972, Unesco passed a resolution approving a programme of actions designed to hasten the development of the education of girls and women and to encourage them to a wider range of technical and scientific courses and studies which would lead to a wider range of employment opportunities. The goal of equal opportunity in education and training "in order to enable women to participate fully and creatively in the economic and social development of their countries" (3), a long-standing major concern of Unesco, was reaffirmed. This has been further strengthened by the Revised Recommendation concerning Technical and Vocational Education subsequently adopted by the General Conference of Unesco on 19 November 1974, which also included a recommendation that "technical and vocational education should be so designed that it... is available... on a basis of equality to women as to men" (4) and spells out in particular that "because it is desirable that women seek wider participation in all kinds of occupations outside family and domestic activities, they should have the same educational opportunities available to them as to men, in order to prepare for an occupation, and should be encouraged to take advantage of these through appropriate legislative measures and widespread distribution of information concerning these possibilities." (5) Because of concern that educational opportunity should be seen as a lifelong process, the Revised Recommendation reasserts the value of expanding technical and vocational education as continuing education, "available throughout working life without restriction of age, sex, prior education, training or position". (6)

1.8 This is in common indeed with Convention 142 concerning Vocational Guidance and Vocational Training in Development of Human Resources of the International Labour Organisation, under Article 1(5) of which policies and programmes "shall encourage and enable all persons, on an equal basis and without any discrimination whatsoever, to develop and use their capabilities for work in their own best interests and in accordance with their own aspirations, account being taken of the needs of society", and with two other instruments of this same Organisation which are:

(a) Recommendation 150 concerning The Vocational Guidance and Vocational Training in the Development of Human Resources; and

(b) Declaration on Equality of Opportunity and Treatment for Women Workers.

1.9 The Commission of the European Communities issued a Directive in 1975 on Equality of Treatment between Men and Women Workers, which stated under its Article 3 that:

> "The implementation of the principle of equal treatment in regard to vocational training requires access to all levels of general education, initial and advanced vocational training and retraining, in accordance with their abilities and aspirations, whether such education and training is provided in institutions or on the job. In order to enable women to obtain the qualifications assuring them equal opportunities of employment, member states shall take steps to ensure that equal standards and level of general and technical education and vocational guidance, initial and advanced vocational training and retraining, shall be available without discrimination based on sex, or on marital or family status." (7)

The impact of this Directive will be referred to in the concluding section.

1.10 On a wider European front, the Standing Conference of European Ministers of Education (of the countries in membership of the Council of Europe) met at their Biennial Conference at The Hague in June 1979, to discuss as their main theme, equality of educational opportunity for girls and women. In selecting the theme, it had been perceived by the Ministers to be of an urgent and vital concern quite as much in terms of the economic and social development of their countries, as in terms of the individual rights of girls and women to full educational equality which they also recognised as compelling. The Ministers took a firm view that in relation to all education systems within their purview, differentiation of curricula on grounds of sex was no longer acceptable, or in the best interests of their countries:

> "Any movement to break away from traditional sex stereotypes in schools and in employment affects both sexes. Because sex is becoming, and should become, less relevant in the distribution of functions in adult life, the educational choices offered to boys and to girls should be the same. Education systems should not only offer whatever optional subjects may contribute to each pupil's full educational development, but also prepare all pupils for the sharing of domestic and parental responsibilities, and equip girls, as well as boys, to earn an independent living, to cope with the technical elements of practical life and to participate in democratic decision-making and public life." (8)

This firm commitment to an educational policy of preparing boys as well as girls for domestic and parental responsibilities, as well as for economic productivity, has substantial implications for a revised structure and content of vocational and technical education in the 1980's. Similarly the stressed importance of participation in democratic decision-making will require not only a reorientation of the vocational education of girls to equip them with the relevant economic and business skills, but new forms of vocational guidance to present the leadership role to them as one which is as suitable for women, as for men.

Formal or factual equality?

1.11 The statement issued by the European Ministers in 1979 also drew an important distinction between formal equality and factual equality. In calling for a "new overall policy designed to ensure that in all areas of life equality between the sexes becomes a reality", they recognised in the light of massive evidence presented to them that:

> "formal equality in education has not been sufficient to achieve factual equality of opportunity for girls and women either in the educational system or in the life for which it is a preparation".

The antithesis of formal equality and factual equality runs indeed like a leitmotiv through this paper. Few educational planners, educators or politicians probably actually intend consciously to discriminate in the formation of the administrative structures which determine the building and organisation, the staffing and the curriculum of their schools. There is however no country which can yet show other than a minority of women in their administrative leadership, in the higher echelons of educational planning, at the head of their educational institutions as a whole, in government, or in decision-making levels of employment and training. In most countries, over 90% of the real decision-makers in educational planning are men. It is therefore perhaps understandable that those who have planned and devised systems of vocational and technical education should have reflected in them masculine-oriented and traditional social assumptions on the future adult roles which the girls whom they were educating were expected to adopt. To question these assumptions, and some of the organisational and structural barriers which girls now therefore face, is not necessarily to suggest a conscious will to discriminate or to contribute to inequality. It is therefore perhaps important to spell out at this stage that the analysis and suggestions which follow, and which do question many of those assumptions and practices now current in educational planning, are presented in the expectation that they will be seen rather as a contribution to a deeper understanding and enlightenment, than as negative criticism.

A thematic approach

1.12 A brief study of the range of barriers to female equality in vocational education confirms the need to see these in national and not in regional or world contexts. Conclusions true of one country are rarely completely transferable to another. Certain themes do however emerge as universal, and these are outlined here as a backcloth or canvas against which the illustrations of actual practice in succeeding sections should be set. All are, in the writer's view, universal in existence and in relevance although different in scale, character and intensity as between regions and countries.

(a) Persistent and incorrect beliefs about the psychology and physiology of innate/conditioned sex differences

1.13 Outdated attitudes on the part of educational planners, trainers and employers, counsellors and teachers, and parents on the alleged "universality" of sex differences, underly much though not all of the deliberate social and educational sex differentiation of curricular, training, work and sex roles. Ignorance or imperfect understanding of much of the new psychological and sociological evidence of the 1970's (of the greater differences within than between the sexes) appears to be nearly universal. The three remaining themes are consequential to this in both origin and effect, as barriers.

(b) Social and economic expectations of continued automatic male priority

1.14 This is unquestionably the most recurrent cause of female disadvantage. Some of the applied male priority in all forms of technical and most forms of vocational education has deep cultural or religious origins, but at the surface level of decision-making, it occurs principally in resource-allocation procedures and has become a fundamental function of educational rationing. When resources are perceived to be adequate for universality of application, girls and boys are seen to have equal planning rights. When places or resources are rationed however, even if equality has been previously attained, male priority reasserts itself over the dynamic of equality. In employment (women may work as long as men are not unemployed; if there are too few jobs however, male priority reasserts over qualifications or merit, regardless of women's need for job satisfaction or their equal breadwinning role).

(c) Sex cleavage of vocational training and the labour market and the work ethic

1.15 A universal problem is the deliberate structuring of the national technical and vocational education systems to reflect the existing sex cleavage of the labour market. Whether or not this is intended to be "realistic", it nevertheless constitutes major structural, organisational, curricular and psychological barriers to girls. The concept of "men's work" and "women's work" is clearly central to this aspect, and cannot be omitted from any debate on sex cleavage in vocational preparation and on vocational guidance.

(d) Marriage, domestic education and the "dual role"

1.16 Also fundamental in every country for which evidence or research material is available, is the inter-relationship of the attitudes of educational planners, of parents and of girls and boys themselves towards the role of women and men in marriage, home-making and work. This is the area of widest difference in social and cultural attitudes as between countries, yet the greatest similarity both in rationale and in curricular and economic outcome. It is most clearly manifested in the worldwide labelling of domestic education as "vocational" for girls but irrelevant for boys, and later sections will link these two issues.

(e) Rural deprivation

1.17 The themes of sex cleavage in vocational education and training schemes, of the deterrent effect on girls of the educational presentation of marriage as a vocation, and of sex differentiation of curricula, are further complicated by the rural dimension. There is a longstanding and deeprooted problem of underinvestment in rural education both in developed and developing countries. A world survey carried out by Unesco in 1968 on the access of girls and women to technical and vocational education, showed clearly not only a wide-spread sex-typing of vocational courses, but a lower female enrolment in technical education was especially marked in rural areas. (9) Compensatory programmes will need to take especial account of this continuing need, and further reference will be made to rural needs.

The aggregation of inequalities

1.18 It is easy to fall into the error of talking of girls and women in the context of sex differences in education, as if they were more homogeneous because of their sex, than we would think at all possible if we were discussing psychological, medical or social problems. There has been however considerable research evidence for over fifty years that social class and intelligence are the most decisive factors of advantage or disadvantage. Only now is sex inequality beginning to be recognised as an equally serious social and educational problem. Therefore in discussing problems in the context of possible policy strategies, it is important to recognise the "compound interest" of inequality: aggregated factors which place particular groups especially at risk. Thus, where several of these indices of especial risk are present together, a cumulative problem is produced which can be most effectively attacked by major and integrated interventionist programmes which not only cross social and educational barriers, but which also incorporate all relevant Ministries, Departments and disciplines in co-ordinated planning. It is suggested that when any two or three of the following potential indices of disadvantage are aggregated, they are likely to create a cumulative scale of inequality:

(i) female sex

(ii) lower range of intelligence

(iii) lower social class and/or poverty

(iv) residence in certain underdeveloped or under-achieving sub-regions or area

(v) residence in rural areas.

A sixth group - girls of ethnic minorities or from families who have become migrants - will also face particularly complex problems. Trends over the last decade suggest that this group will present growing and not diminishing social needs and problems which will also need especial attention - and especial resources. Conversely, it may well for example be that middle class urban girls have more in common with, and more nearly equal opportunities to, middle class urban boys, than to working class rural girls. Thus the special programmes and resources will need to be soundly based in diagnostic techniques and not on overgeneralised "normative" assumptions.

.19 Because the sex differentiation in vocational education has its origins in inherited attitudes about innate sex differences, a brief outline of the important refutation of past theories follows here, before Section II begins to deal with educational planning and access for girls.

The psychology of sex differences

.20 One reason most frequently given by educators for sex differences in planned curricular programmes, is that because they believe that the sexes are innately different biologically, intellectually and temperamentally, then this must, as a corollary, be translated into the education process. It is unaccountable that this over-simple view (which presupposes that all women or all men have a common set of characteristics) should persist despite the fact that almost all known studies now confirm that differences within each sex exceed differences between the sexes. There is not space here to develop the full arguments for and against current theories about innate sex differences but it is essential to any review of the planned sex differentiation of technical and vocational education, to register that previously held theories on which educational planners have justified separate (often inferior) programmes for girls, are now cast into question by a range of research studies published in the 1970's.

.21 Of these research studies one of the most scholarly, detailed and widely influential research publications on this whole issue appeared in 1974 in America, It has provided the first solid and comprehensive evidence to put into question, the assumptions on which decisions in structing education, training and the labour market have been made almost unchallenged until now. Maccoby and Jacklin (10) have studied over 1400 research projects, reports and surveys published in the period since 1965, to which they have added their own firsthand research into the actual performance of young children of both sexes. Among their newer theories to emerge is not only that innate sex differences are relatively more minimal than hitherto alleged, but that some previously recorded later biological sex differences in young childhood were not in fact significant at birth or in the perinatal period and may have been minimised in one child and maximised in the other by differential socialisation reactions or treatment by those caring for and handling children. Maccoby and Jacklin also produce convincing evidence that males are no less capable of good nurturing behaviour than females and that dominance related to leadership and persuasiveness and task competence is equally found in males and females. They do confirm that boys' motivation to achieve is more quickly aroused by competitiveness than girls but when a straight competitive motive is lacking, girls typically demonstrate higher levels of motivation for achievement. (This has implications in the single sex/coeducation debate.) They identified only three biologically based sex differences as valid, on which they see the social development of traditional sex-role stereotypes to have been mainly based:

(1) the greater physical strength of the average male

(2) the greater aggressiveness of the average male from at least 2 years of age onwards in all cultures

(3) the female's childbearing and nursing roles.

But Maccoby and Jacklin contend with a cogently argued case that these differences no longer play the same role in the survival or productivity of the human race as in primitive society. (For example many tasks once requiring physical strength are now mechanised and are handled by levers, switches and buttons. Aggressiveness is less valuable in industrial relations than consensus and corporate decision-making. Child-bearing, as distinct from child-rearing, is a relatively brief interlude in a typical two to four child family and not a lifetime's occupation as when from 12-19 children was a normal pattern.) Secondly, they found that many of the earlier much quoted studies were based on untypical samples (white middle class, urban industrialised groups, samples from upper class residential areas or from poor tenements).

1.22 Evidence adduced for making a difference in treatment for a particular group (girls, an ethnic group, rural children, etc.) would therefore need to be universalistic to be valid; that is, it needs to be true for all members of a group to justify treating all members of that group identically. Biological evidence would need to be true for all males, or for all females, and across all cultures, to be a compelling and sufficient reason for total and automatic sex differentiation in either pedagogic or social treatment. And it is not. On the contrary, evidence shows that for many of the allegedly innate sex differences, the divergence from "average" or "normative" results can represent up to one third of a classified sample or group. Critically important is that while a very few biological sex differences can be substantiated, the previous assumptions about the universality of innate intellectual sex differences are now cast very seriously into question. Research is now continuing, notably in the U.S.A., into the socialisation and pedagogic origins of conditioned sex differences in young children. There is no longer therefore a justified psychological or social base for structural sex differentiation in vocational or technical education.

1.23 Similarly it is often argued as justification that men are innately more suitable as a sex physiologically or intellectually, for scarce or for prestigious opportunities in employment. Several studies of employers' attitudes by the Manpower Services Commission, the Department of Employment and the Office of Population and Census Survey (OPCS) in the U.K. found that employers generally stated a preference for men in a wide variety of jobs and reflected this in their advertising. Questioned as to the reasons, the employers' responses to the survey showed that many still believed there were innate sex differences between men and women in intelligence, strength and aptitude for certain tasks related to employment which were universal (as distinct from applying to some or most of either sex) and which current psychological studies put into question. In fact however, the subsequent study of intelligence and aptitude tests conducted by the Department of Employment (U.K.) confirmed again that differences within each sex far outweigh any apparent "norms" of differences between the sexes. This later study also found that strength, for example, was not a suitable criterion for most employment. Equally relevant is the finding from that study that girls were discouraged from seeking entry to science or technology or other male-dominated fields, if they had already encountered prejudice of this kind in their first efforts to find employment. (11) There are many other such academically based or government-sponsored surveys available to refute the current mismatch of belief and actuality on sex differences. A first and important step is to disseminate the results and conclusions of these research studies. This dissemination may be achieved through:

(1) steps to ensure that educational planners, heads of educational institutions and curriculum planners are fully conversant with the new evidence on psychological and physiological sex differences;

(2) re-examination of educational planning and all curriculum and course design in order to eliminate sex differentiation based on assumed sex differences which are not universalistic;

(3) updating of the psychological and biological content of teacher training programmes in the light of new evidence published in the 1970's and appropriate revision of teacher training manuals and text books;

(4) basing any differentiation of curricular programmes for pupils and students on individually assessed aptitudes, skills and interests and not on normative bases of sex or other ascribed status.

II. EDUCATIONAL PLANNING, STRUCTURE AND PROVISION - ACCESS, OBJECTIVES AND SEX DIFFERENTIATION

2.1 This section deals with some aspects of the educational evidence of sex differentiation in input, that is provision, and in output, that is participation. The first half of this section looks at female illiteracy, dropout and participation; the second at some structural causes of female underachievement.

Female Illiteracy

2.2 To tackle problems of secondary education and of vocational development without dealing decisively with the growing problem of female illiteracy is to leave out half of the women of the world and to give help only to those who have already received. There can be no question more vital to the advancement of the vocational education of women than the eradication of female illiteracy. It has already been recorded that "Quantitatively, the literacy problem continues to be highly alarming with the absolute number of illiterates steadily increasing". (12) It is not only that to study, girls must be able to read; but that numeracy, technical and spatial development, the ability to observe and deduce, to apply learned theory to practice, also depend on sound literacy. Mere recognition of letters and words are not enough: language is the key tool for later learning. Illiterate women are therefore not only barred from further learning, but cannot read machinery instructions, elementary guidance for new equipment, or pass a basic technical test. This in turn reinforces the (incorrect) stereotype that women cannot handle basic machinery, simple technology, or benefit from technical training. Nor can illiterate women take part in political work even at village level, play a part in the democratic development of their country, or play a creative role in the unpaid sector of voluntary and community work of which a later section speaks, without good, basic education. It is easy for readers in developed countries to underestimate the scale of this problem, and Part II of Annex A (available in English and French texts) therefore gives a selected picture of the continuing scale of need to be tackled in the next decade in four different countries, which are representative of a disturbing number of others.

2.3 Literacy and universal primary education for both sexes remain therefore a vital priority area which can no longer be avoided as an urgent issue. There is enough evidence from countries which have wiped out illiteracy to show that this is feasible. But it presupposes also not only a diversion of resources from other perceived priorities, but a follow-up of continuing adult education, once literate. Literacy has to be exercised, to be maintained.

Premature female dropout

2.4 The problem of female dropout is too complex for a single synoptic report to analyse across cultures and societies and needs to be studied in depth in relation to the specific social, cultural and educational situations of each individual country, to be meaningful. The universality of the problem is however an important factor to register here and all integrated development programmes will need to include measures to counter it. The cumulative evidence shows that a higher female to male dropout rate and a tendency for more girls than boys to "choose" shorter courses, courses which lead to lower level qualifications or courses with a poorer transfer value, are common to a wide variety of types of countries and societies, from rural agricultural economies to highly industrialised and developed ones. One common characteristic is that early leaving because it curtails the level and quality of education and training skills attained, limits later occupational choice and hence blocks girls into lower occupations. A Scottish survey of school leavers confirms the greater additional likelihood of early job instability among early leavers, of both sexes (13), a finding matched in Australia, where also "for early female leavers in particular, there is an association with downward social mobility on re-entering the workforce (each time)". (14)

2.5 It is dangerous to attempt, moreover, to deduce either trends or cause-and-effect results from "raw" statistics of school attendance or of participation rates for girls and boys staying on in schooling or in full-time or part-time vocational education. Many published statistical tables are presented either in terms of level of education rather than of age groups; or in age groups without dividing into sectors (academic, vocational, general); or in sectors which do not, understandably in statistical form, illustrate what girls are studying, for how long and for what terminal qualification. Nor do either of the latter necessarily throw light on the level of schooling actually attained. A review of recent statistics of early school leavers in Australia further confirms the need to look behind generalised data collected at national level or for sectors as a whole, and look more deeply at different patterns within age groups, within branches of education, and in different geographical situations. While participation rates in the upper secondary levels in Australia for example have improved proportionately more for girls than for boys over the seven years 1966-73, there are still fewer girls in full-time education after 16-plus - 56.6% of boys but 52.7% of girls; at 17-plus, 32.2% of boys, 27.6% of girls confirming broadly the U.K. and Netherlands pattern.

2.6 The four major barriers which emerge as preventing girls from continuing their education as long (or to as advanced a level) as boys, are the effect of child or early marriage (a negative factor even in European countries), lower social class, more restricted female mobility and fewer parental or educational financial aids for girls.

2.7 In many Asian and some African countries in particular, child marriage or marriage in very early adolescence is not yet a past phenomenon, and is still a major cause of premature leaving or of deprivation of upper primary or secondary education at all. Goldstein (15), in studying the transition of graduate women in Bangalore, India, in relation to marriage and work in the early 1970's, suggests that the major change in the 1960's was the social pressure to postpone child marriages beyond puberty, which opened up schooling and higher education for many more girls; but she sees it mainly as an urban benefit. "Certainly for some rural Indians, the high school graduate has already been ruined for marriage. For many urban educated men, the college graduate is just about right". Jacobsen and Kapur (16) both see marriage in early adolescence as a common problem for girls (but not for young men). The Indian Department of Social Welfare includes in its resumé of factors retarding the progress of women's education: "early marriage and social inhibitions against girls pursuing education after marriage; the prevalence of child labour among girls belonging to weaker sections and the hard domestic chores which some of the unmarried girls - even in the middle class families - are required to perform and the prevailing notion that the sole occupation of women is to bear children, look after her husband and thus be restricted to domestic work." Evidence from a range of further reports suggests that these social/attitudinal barriers, which have their origins in a fusion of religious and cultural traditions, are both by no means uncommon in many (but not all) Asian, Arab and African countries. As a general principle, it seems more fruitful to look at the problem in terms of changing the attitudes of parents and husbands towards the continuation of girls' education after marriage by adult and community education programmes, and by making acceptable educational arrangements in such a way as to conform (at least in periods of social transition), to the prevailing social and cultural atmosphere, while working towards an acceleration of social change.

2.8 The aggregation of social class and sex inequality is becoming increasingly well documented in relation to both access and dropout for girls. An Australian survey is typical in showing that the daughters of unskilled workers had the least chance of continuing full-time education after the compulsory school age. (17) In Luxembourg, in a recent longitudinal study of over 2,000 pupils (beginning with the sixth year of schooling), the profile of the 17.0% of the sample who had experienced the minimum of post-primary education had four main characteristics - they were predominantly girls, working class, children of unskilled workers and of below average intelligence. (18) Conversely the 30% whose profile showed longest schooling and the best qualitative education were 68.2% boys and 37% girls, of good social class, non-manual parents and high intelligence - predictably. Other studies in the Netherlands and the U.K. confirm the social class factor for those countries also. (19) Shipstone and Wasi (20) have confirmed the aggregation of the "sore neglect" of girls in rural areas, their high female dropout rate and the inadequate help to girls of lower social classes, in India. Oppong's study of upper civil servants in Ghana illustrates inter alia that it is either middle-class women or women with some reasonable education themselves who adopt a middle-class house and life style, who are able to make relatively more choices and decisions about their own and their children's education, training and work-patterns, as well as within marriage and the family. (21)

Mobility

2.9 Like a number of other aspects, the problem of mobility has its roots also in social attitudes and its remedies in new principles of educational planning. There is evidence on the one hand from countries like Indonesia, a country spread over many islands, or Brazil and India with areas of over 3 million and 1 million square miles respectively, that providing accessible networks and realistic means of practical mobility and transport are functional problems of daunting magnitude. But cultural restrictions, sometimes developed from the fusion of religions and social traditions, often also prevent the free movement of girls and women even where boys and men do find means of travel. Jacobsen refers to the purdah restrictions on mobility of traditional women, and to village women who neither can nor would drive a bullock cart, urban women who do not drive cars and who are all dependent on men for transport "which leads to ignorance and lack of education". (22) In some African societies too, this remains a cultural barrier: "Unless it is to join their husbands, village women are discouraged from making such a trip (to towns) at all and the opposition is, as a rule, particularly strong against the movement of young unmarried girls." (23), and the particular resistence of parents in village communities to the unsupervised movement of rural girls and women is also well-documented in India, Malaysia, Indonesia, Sri Lanka and Brazil. Nor is this an unknown factor in Europe - in England it is still socially unacceptable for rural girls in traditional rural counties to ride the motorcycles which are provided to enable their brothers to attend vocational technical colleges and centres at a distance (24) (and for which educational allowances are available from local authorities for boys, but not for girls).

Boarding provision?

2.10 Any programme to extend secondary education and vocational education in such a way as to involve the greater movement of rural girls in particular, and girls in the pubertal adolescent years in general, must take especially sensitive note of the social, cultural and religious atmosphere prevailing in the local community and respect this in choosing the method of development. While a long-term goal must be the gradual freedom of women to take part in all aspects of life in the community on the same terms as men, clearly more progress would be made on the way if the opening up of blocked avenues to girls can be achieved within an existing cultural climate in the first instance. Thus it seems clear that a vigorous programme of boarding schools or hostels is needed, together with perhaps an extension to less developed countries, of European systems of supervised rural transport.

Financial infrastructures - male priority

2.11 It is perhaps easy to take for granted the widespread availability of universal and free primary and secondary education in most developed countries. But the financial barriers which still exist, vary from country to country as sharply as the differences in literacy and basic education. In those developing countries where education is not free - and is progressively more costly as it becomes (a) more advanced and (b) more vocational, the male priority reasserts itself at every selection point. In Unesco's 1968 survey of the vocational and technical education of girls, the declared intention of most countries appeared to be to offer financial assistance to boys and girls according to need. But in practice, the evidence quoted shows heavier investment in boys.

2.12 There is also documented evidence in European countries that girls and women receive less financial support from both families and authorities than boys and men. In the *U.K.*, where only higher education awards are mandatory (i.e. all students with a place at a higher education institution qualify for some grant according to parental income) the *vocationally* oriented further (i.e. non-advanced) courses carry only a discretionary grant. But since two-thirds of *higher* education students in the *U.K.* are male, but more further education students are women, women receive far less financial grant-aid than men. There is also evidence that the local education authorities actually grant proportionately more *discretionary* awards to male applicants than to female applicants. (25) It would be desirable to discuss further with national authorities, the rationale for any continued sex differentiation in financial infrastructures. Such a policy might be useful strategy if its purpose were expressly to ensure a *minimum quota* (which logically should in that case be 50%) of awards to girls, but quota systems then conflict with the principle of merit and qualifications. Sex differentiation has however, in all known research so far, rather resulted in disadvantage to girls de facto, and policies should be carefully re-examined to ensure no route is closed to girls by reason of restrictive financial infrastructures or inadequate income to meet educational fees and maintenance (where necessary away from home). In particular, the abolition of sex-typing in courses would need to be accompanied by a parallel open policy on financial aid, to be completely effective. Actions to encourage girls to pursue their schooling may be developed around the following objectives:

(i) increased *provision* and *location* of rural schools within easy travelling distance of villages and residential areas;

(ii) improved rural *transport* directly related to the siting of educational and employment provision;

(iii) equal provision of *boarding hostels* for girls and women at vocational education schools and centres, particularly at agricultural schools;

(iv) equal *financial infrastructures* and *scholarships* for girls and women and improved information dissemination about these;

(v) positive *publicity* in adult education programmes to encourage more parents to allow girls to continue in education and training;

(vi) discussions with cultural leaders in local and regional communities about the need for girls not to discontinue education and training after child - or early marriage. This may involve *interim* special arrangements for single sex education in some traditional (mainly rural) communities, including vocational education in the organisation of voluntary (unpaid services sector) work and in community and political development where this is a more socially acceptable immediate goal than paid economic activity after marriage.

The pattern of girls' participation rates

2.13 Before moving on to look at planning and structural reasons for lower female achievement, some *illustrative* examples are given below of the present trends of girls' participation rates. These and the supplementary data in Annex A are complementary and are intended to highlight points, *not* to give a comprehensive picture. In particular, this section is meant to spell out the need for improved *diagnostically-compiled* education statistics to be developed all of which should be sex divided for at least a decade to enable effective monitoring of trends. Global figures in particular give no indication of relevant proportion to age groups, type of course, point or level of dropout or promotion, nor level of terminal qualifications achieved by different sectors of boys and girls.

2.14 Nevertheless Table 1 of Annex A gives the overall female enrolments in the three levels of education for each world region in 1975. (This however shows only girls as a % of all enrolments, not of all girls.) Africa and Asia show a continuing lower female rate. When further subdivided in Table 2 however, three rough patterns emerge. In some countries, girls are almost as well represented as boys in vocational and technical education (however that is defined for girls...) as in academic/general education. In a second group, girls are equally (or over) represented in academic/general education but are a minority in vocational and technical schools. In a third group they are under-represented in both. The detailed further subdivisions are selected to show that if further progress is to be made, improved methods of research and monitoring are needed to reveal the real and not the perceived position of girls and women in education and training. This would involve the sex-division of all education statistics, to be effective.

European countries

2.15 The study of the education of girls in the EEC countries referred to above (26) highlighted the misleading nature of global statistics. Only when overall participation rates were subdivided again and again, could meaningful sex differences emerge. The Netherlands is chosen to illustrate this. The overall statistics for 1975 (UN Statistical Yearbook 1977) give a female participation rate for secondary general education as 49.5% and for secondary vocational and technical as 41.4%. This appears to be relatively favourable to girls. When however the detailed annual national statistics are further analysed, the following sex differences emerge. In 1975-76, girls were 47.7% of enrolments in the first cycle of second level studies (up to about 15 years of age) but only 43.7% of the second, post-compulsory age, cycle of full-time education. When these figures are further subdivided, girls are found to be only 45% of all pre-university academic (VWO) pupils (but only 41.9% of those over 16 in VWO, as against boys' 58.1%). In secondary general education (MAVO - middle general and HAVO - higher general) girls are 52.5% of all MAVO students, 49.5% of HAVO students but only 47% in each case of those over 16 years still at school. The female dropout rate is constantly higher, but varies by sector. Girls also study for shorter courses than boys. In vocational and technical education moreover, girls were only 42.7% of Lower Vocational (12-15 years of age), 40.9% of middle vocational courses in 1976. In the Netherlands, vocational courses were entirely sex-divided before the 1968 reforms. The reforms broadened the base of the huishoud (domestic) schools into huishoud en nijversheids onderweis, or domestic and industrial education, but the word industrial here is misleading. In fact, the (four-year) first cycle and the (one to three-year) second cycle courses still concentrate on domestic economy and on training for "female" fields like welfare, residential child care, paramedical services - not for factory, production or technician outlets. 80% of all girls on vocational courses are in these schools. Of the upper secondary technical students (machine tools, electronics, construction, electrical trades, etc.) only 5% are girls.

2.16 A similar very detailed analysis has been completed for the other EEC countries. (27) In Luxembourg for example, fewer girls remain at school after 15 than boys, with a very marked sex differential at 16-plus (boys' retention rate 67.2%, girls 48.6%) and 17-plus (boys 56.9%, girls 31.5%). The enseignement moyen and enseignement professionel vocational courses (e.g. paramedical, commercial, industrial) appear mainly sex-typed. Only 4 of the 399 pupils at the Ecole Technique are girls. All 312 pupils at the Ecole Professionnelle et Ménagère are girls. And the structure of the school system has been organised with 8 schools for boys only, 14 for girls only and 14 mixed schools. The girls' schools offer nursing, domestic science, child care, and rural domestic economy. The boys' schools offer technical studies, craft studies and viticulture, and the boys' rural school trains agricultural technicians with a diploma leading to skilled employment. There is a similarly consistently higher dropout rate for less able girls in Ireland remaining on first cycle secondary courses - marked at 14 years of age and progressive thereafter. By contrast the more academic girls on higher (pre-university) secondary courses outnumber boys (a trend matched in Italy where female enrolments in the academic schools or licei are proportionately high). But in Ireland, only 31.2% of pupils on lower vocational courses were girls and 30% on upper secondary vocational courses - of whom 60% were on secretarial courses. And while girls were 41% of university first-year enrolments, they were only one quarter of third-level students following courses of vocational technology or technical/commercial and administrative studies. In France, the participation rates for girls are among the highest in Europe, for reasons which are again difficult to analyse without further research. Although girls are still less well represented than boys in pre-vocational and pre-apprenticeship classes leading to the Certificat d'Aptitude Professionnelle in the public sector, they are a majority in the private sector. Unusually, more girls than boys are in long cycle studies, following them through to completion and they are a majority not only of those preparing for the traditional baccalauréat but of those taking the Baccalauréat de Technicien. When the sectors are subdivided by course and by length of study however, girls are again found more in generalised than in job-specific vocational education; and more often on one or two, than on three-year courses. In the lycées, girls were 57.2% of short cycle and 55.7% of long cycle courses in vocational or technical education in 1975-76. Female pass rates are almost consistently higher than male pass rates. But the sex-typing of course curricula is still mostly replicated. Half of all boys taking the Brevet d'Education Professionnelle were concentrated in mechanics and machine tools and electrical trades. Two-thirds of the girls were studying secretarial and office practice.

2.17 The main vocational sex-division in enrolments in the Federal Republic of Germany is between full-time and part-time vocational education - which appears to be also characteristic of most West European countries. Girls account for 67% of all pupils at the full-time vocational education Berufsfachschulen - a sector which has been expanded by the education service to fill some of the gaps of the "dual system" under which young people are offered vocational training by employers as part of the contract of employment. In the part-time Berufsschulen, which provide part-time courses for young people in employment who leave school before the age of 18 (and who must by law attend part-time vocational education until 18 years of age), girls are 40% of enrolments. In the Berufsausbauschulen, a vocational extension school providing one or two-year "second chance" vocational courses, a bridge between general and vocational courses, girls are only a quarter of all students (most of whom are part-time). Within the vocational sector as a whole, girls' preferences are mainly traditional (commerce, welfare, paramedical, hairdressing). The pattern is repeated at the advanced, third level. Girls are 62% of the Fachschulen students, but only 31% at the technical Fachoberschulen and Technical Gymnasien. The "non-traditional" choices of both girls and boys, reflect a general tendency for proportionately more boys to be enrolled in predominantly "female" areas than girls in predominantly "male" areas. Thus in 1976, of the 15 largest and most preferred occupations for which boys train, girls are less than 1.0% of enrolments in 13 and 37.7% of the fourteenth. Of the 15 largest and most preferred occupations for which girls train, boys' "minority" enrolment is over 20% in three cases and over 40% in a further three. Of 13 specialist trades in the fields of electronics and mechanics at technician level, girls were fewer than 1.5% in 12 cases, and 13.9% of the thirteenth (surveying technicians). (28) Moreover, over two-thirds of young people wanting a training place for which they were sufficiently prepared, but for which no place was available, were girls.

2.18 The Federal Ministry of Education and the Federal Institute of Vocational Education have accordingly collaborated with the Länder Ministries and a range of industrial firms, to launch a national programme of pilot experiments to train girls for craft and technical fields usually offered only to boys, initially in Hanover and Gelsenkirchen. The Federal Republic of Germany has a declining birthrate and will have an estimated shortfall of skilled labour by 1985. Several other firms expressed interest and a further range of pilot experiments has been initiated, involving labour exchanges, municipalities and training sections of chambers of commerce in collaboration with industry. 75% of the cost is grant aided at Federal level. At the moment there are 25 pilot schemes involving about 1,000 young women. One important and new aspect is that most of the pilot experiments are backed up by socio-pedagogic measures within the framework of expert counselling - for example involving regular counselling sessions for students (and trainers) as well as weekend seminars. These are provided on the assumption that to some extent young women will encounter opposition and rejection not only in their social environment but perhaps also in the firms at which they are training if they are not content to remain within the confines of their traditional "feminine role". The socio-pedagogic measures are carried out in different ways either by specially trained teachers and psychologists or by sociologists. At the least, if trainees encounter problems there has always been the opportunity of discussing them with socio-pedagogic experts. Initial preliminary results give no reason to expect any special problems in training young women. As a rule, girls are highly motivated and their training performance has so far been equal to that of boys. At the start, they have sometimes had less understanding of technical matters, less knowledge of technical terminology, and less physical strength but after a few weeks of training, their progress towards reducing these disadvantages has been found to be considerable.

2.19 Even in Finland, where girls are 57% of all secondary school pupils, 59% of those who matriculate at 18 and 49% of those who go on to university, girls represent only 30% of those in vocational training. Auvinen sees a causal link between this poorer vocational motivation and the low proportion of women in government (still only 20% although Finland was the second country to achieve female suffrage) and the shortage of women on local councils. She speculates that this may be not only women's poor self-image, but that "mutual confidence between women is still in short supply". Both the roots and the remedies for this must lie in the content and orientation of the education system. (29)

Developing or non-industrialised countries

2.20 Progress in the non-industrialised countries is relatively slower and it is in the secondary vocational and technical sector again that the two characteristics of female under-recruitment and of sex-typing of "options" persists relatively unchanged. The concentration of girls in the arts and humanities is for example particularly marked in some *Arab states*, partly as a result of their limited access to alternative technical courses (30); and in countries like *India*, where a girl's marriageability may be enhanced by education less for economic reasons than because it is perceived to make her a more suitable wife for a man whose professional status is high. In *Egypt*, opportunities for girls are far fewer than for boys - the latter have options open to them for 40 different trade outlets in the 150 industrial secondary schools (15-18 years), girls only 8. (Among these 8 girls' options, encouragingly, are included Radio and TV servicing, decoration and advertising, and fine mechanics - areas regarded as "male" in some other countries.) In *Turkey*, however, while most girls followed traditional patterns in the 1970's (89.8% of vocational health students were women), some vocational schools originally designed for one sex have begun to admit the other - "this was the outcome of the belief that equality of opportunity also means to make the same type of education in terms of objectives, curriculum etc. available to boys and to girls". (31)

2.21 Tables 5 and 6 give a breakdown of female enrolments at second-level in *Indonesia* - again illustrating the need to look behind global statistics. For while the overall female enrolment looks relatively high for an Asian country as a proportion of all enrolments, female illiteracy remains an acute problem in Indonesia. Table 5 shows further, that almost all girls on *vocational* courses are in home economics schools; only 5% are in technical education in junior secondary; fewer than 2% in senior secondary schools. Table 6 gives the participation rates by age - given the size of an average enrolment group, the retention rate after 15 or 16 in any but lower grades is low. But in relation to the *overall age group*, it is even lower. The same point is illustrated for *Turkey* in Table 7. Girls' enrolments appear to have reached an overall ceiling of about a third of students with relatively little improvement over the decade 1964-1974.

2.22 Even apparently favourable figures must be regarded with caution. The generalised statistics of the 1977 UN Yearbook for *Botswana* for example show an overall equal proportion of girls at primary and general secondary levels (but fewer in vocational schools). Rensburg however estimated that although by 1978 about 50% (but *only* 50%) of primary leavers in Botswana would find secondary places, this was from an abnormally low primary base. Primary enrolments fell from 17,600 in 1968 to 10,450 in 1971. When the Government cut fees from R6 to R3 in 1973 however, primary enrolments promptly climbed. There is little doubt that free universal primary education must remain a long-term goal, but as a complement to, not an alternative to, adult literacy drives. Government estimates in the early 1970's were based on a figure of 50% leaving school to enter the labour force or the "Brigade" training schemes (four days' work, one day's vocational training in school) by reaching Standard IV. Only 37% were expected to complete secondary education. The Swaneng Hill report also makes it clear that almost all of the vocational provision at Swaneng Hill and its brother school, was for *boys* - a reflection of the perceived social priorities and demand of the parents in the villages served by the school. (32) In Sri Lanka, an overall girls' enrolment figure of 50.9% is given for secondary general education, but only 33.4% for technical and vocational education (Table 2). Again, it is only by subdividing the overall figures that a more meaningful picture emerges. Table 4 of Annex A shows that in the mid-1970's (as in European countries), girls are already under-represented in science by the 10th grade, and they are outnumbered by 2:1 in the upper secondary grades 11 and 12. In the technical institutes they were only 10% of Technician courses and are almost totally absent from craft courses. Predictably, their third level enrolment in vocational science courses is also only about a third - although this has increased since 1966-67. (33)

2.23 A similar situation occurs in Uganda, where Evans discusses for example the expectation of Ugandan girls in primary or secondary schools, only a third of whom can enter upper vocational high school or employment - for want of specialised training for the latter.

> "The remaining half will not be able to find either employment or further training. Thus, although there doesn't appear to be any shortage of secondary school leavers, the bottle necks in specialised training will force the economy either to do without trained women or to hire those with academic backgrounds and no specific training". (34)

A technical adviser in Uganda writes in 1979 that "In some areas parents prefer not to send girls to school and this probably accounts for there being in 1978 over twice as many boys as girls in primary and secondary education: this in turn affects the proportion of girls securing places in technical and vocational courses at vocational level", and in fact only 152 students out of 2,356 at technical schools and 20 out of 1,719 students at technical institutes in 1978 in Uganda, were girls. Twenty-eight students out of 734 at Uganda Technical College were girls. Expressed another way, of ten technical schools in 1978, only three had girls enrolled in the second and third year, only one in the first year and six provided only for boys and the number of girls was minimal. The same pattern recurs in the 5 technical institutes.

	Technical schools		Technical institutes	
	M.	F.	M.	F.
1st year	799	94	786	5
2nd year	712	28	798	15
3rd year	693	30	115	-
	2204	152	1699	20

2.24 In the Ivory Coast, boys and girls were enrolled twenty years ago in 1958-59 at about the same rate - fewer than 100 enrolments in vocational and technical courses in each case. Within a year, boys' enrolments had increased tenfold to 785, girls only to 154. By 1964-65, female enrolments still did not exceed 1,000, but boys' enrolments exceeded 3,000. By 1970-71, girls were still only about 1,000 of all enrolments; boys' had climbed to 4,000. It is difficult to interpret this as solely due to poorer motivation on the part of girls and their parents - it is more likely to be attributable to the fact that of 963 places for girls in 1974, 644 were in schools designated for "métiers féminins", whereas 19 schools are shown with boys' enrolments only (and therefore would be perceived as for boys only by parents of girls). Although the three remaining schools are mixed, girls were still only a fifth of pupils at the Lycée technique and of the Commercial college in 1971. It is also reported that social attitudes retard parental willingness to send girls to school. The attendance rate for girls increased from 18.3% in 1946 to about 38% in 1972, but again there are sharp subregional differences - no region has a higher female attendance rate than 40% but some rural areas fall to 23%. At secondary level the dropout rate is again marked - only 21% of girls started the first year in 1971, but only 4.8% completed the terminal class. (35)

2.25 In Argentina (36), commercial schools are mixed in the rural areas, but sex-separated in the capital city. The former division between industrial and general vocational schools has now disappeared following their reorganisation into National Schools for Technical Education. But in practice, in the public sector, the enrolments are almost wholly sex-typed (though it should be noted that while boys were as much as 10% of the traditionally "female" course students, girls were again only 3% of traditionally "male" courses).

	Schools	1972 enrolments	
		Girls	Boys
With courses traditionally preferred by boys	287	3,609	119,533
With courses traditionally preferred by girls	103	35,378	3,477

In the private sector, two-thirds of secondary schools are single sex and girls again follow a very traditional enrolment pattern in these - 53% of commercial students, 88% of general vocational students, 91% of medical assistants, but only 10% of agricultural and 2% of industrial students. The authors of the research study comment that girls' orientation towards "feminine" areas is less a question of vocation than of limitations of educational opportunities seen as practically open to them, allied to questions of finance, family attitudes and distance to school which are seen as particularly disadvantageous to girls. At third level, women's concentration in social work and social sciences is marked - as is their higher enrolment in journalism (55% of enrolments). The link between the sex cleavage of the labour-market and the "choices" or options made by girls cannot again be overlooked - while girls are a majority of enrolments in the arts-based private universities of Argentina, the new University of National Technology created particularly for the children of workers in trade unions had a 95% male enrolment in 1971 - linked to the work sectors traditionally reserved for men.

Structure and sex differentiation in educational planning

2.26 Of all current aspects of the structure and organisation of schools, curricula and training routes, the major hurdle facing girls remains structural curricular sex differentiation based on perceived sex norms and not on individually assessed capacities and abilities (or even interests), is the most widespread whatever the society and whatever the system. Very few educational planners can produce an articulate set of reasons for differentiating curricula between all girls - as an apparently homogeneous group - and all boys, other than either an alleged traditional "preference" by most pupils of one or the other sex for their designated programmes; or a socially perceived norm of what is considered "suitable" for each sex - all of each sex. But young people will naturally prefer the familiar. Firstly, only a deviant, strongminded, confident and already well educated adolescent could decide to prefer an unusual activity in contradiction to her or his peer group's normal pattern. Secondly, one can only choose that which one already knows and has experienced. Generalised knowledge from an unattainable distance breeds stereotypes, the underlying fallacy of which can only be dispelled by detailed firsthand knowledge of the (unattained) reality. Thirdly, it is above all in early adolescence, when choices have to be made between vocational groups of future activity, that the concepts of "normal masculinity and feminity" are impressed upon girls and boys by the media, by their families, by the customs of their local community, and by the advent of puberty. To label curricular programmes therefore unnecessarily as "masculine" and "feminine" at this stage in particular is to create the very environment in which pupils' "choices" are least likely to deviate from what they see presented to them as their sex-norm.

Sexism

2.27 Space does not permit a detailed analysis of the effect on girls' and boys' motivational choices of "sexism" in the school environment but since the concept may be new to some, the reassertion of its reality is important. General and specific sexism in the school environment is the most difficult problem to analyse and attack as the major cause of girls' poorer motivation, shorter schooling and lower expectation. The concept of sexism was defined in a seminal American book of the early 1970's (Frazier and Sadke) as "a belief that the human sexes have a distinctive make-up that determines their respective lives, usually involving the idea that one sex is superior and has the right to rule the other; a policy of enforcing such asserted right; a system of government and society based on it." (37) The definition is expressed in neutral terms (i.e. not exclusively as discrimination against women as such), because curricular sex-typing can disadvantage boys as well as girls. The problems are rather in a "hidden" curriculum of a sexist school environment, (dividing the sexes for sports, for social activities, for registration, encouraging decisive leadership in boys and discouring extrovert behaviour in girls and so on). Westernisation is fèlt by some also to have imported the artificial socialisation of sex roles in childhood and education, even where those were less marked in the indigenous culture. Among others, Hanks for example, writing of sex equality in Thailand in the early 1960's writes that "little boys were once almost indistinguishable from little girls by dress or coiffure ... The Ministry of Education is now encouraging Western practice by encouraging the wearing of 'uniform' middy blouses and skirts for girls and shorts for boys. The elementary curriculum makes distinctions: while boys engage in Scouting, girls occupy themselves with needlework. Boys play football, girls run races". (38) Over the years, teachers have found it increasingly administratively convenient to divide boys from girls even when it might have been more logical to divide, say, the stronger (girls as well as boys) from the weaker, or the assertive from the gentle (of both sexes) etc. To institutionalise this by, for example, separate play areas, unnecessarily separate school uniforms (most Western small girls now live in jeans out of school) etc. is to encourage sex differentiation as a "normative" process.

2.28 There is a growing pool of research evidence in the West on the adverse influence of sex role socialisation on young children of each sex, and on methods of recognising, diagnosing and counteracting sexism in classrooms - particularly at pre-school and primary stages. Belotti's research work on the feminisation of small girls and the early childhood development of male priority and of "male" characteristics in small boys (39) has however yet to be followed by a cross-cultural study which would be desirable to advance our knowledge on universality or culture-specific problems. This increased understanding is essential for teachers, child care specialists and counsellors if they are to adapt to changing sex roles and to changing social and community needs. Denmark has set up a Committee on Sex Roles in Education within its Ministry whose first report (40) has expressed concern that despite substantial progress in opening up secondary, vocational and higher education for girls, the polarity of the sex roles is still marked in adolescent choices. The Committee has recommended for example that textbooks and educational media should be reviewed so as to present women in a more accurate - and active - light (and not always in a domestic setting); and that out-of-date stereotypes should be removed from all aspects of the school environment. In common with its colleagues in other countries, the Committee saw in-service re-education of teachers as an essential pre-requisite to eliminating unnecessary sex differentiation in schools (including the practice of dividing boys and girls for social activities and for play; or in allotted tasks such as boys carrying chairs and girls arranging flowers). Research into the effects of "hidden curriculum and into teacher:pupil behaviour was also regarded as another early area for priority action.

The "critical filter" in the curriculum

2.29 One organisational result of sexism in curricular planning is what has come to be known as "the critical filter". This is illustrated here by mathematics because this is a key area for entry to technical and to most vocational courses. This is the process of school organisation and of curricular "options" which not only removes certain subject areas from particular groups of pupils (the academically gifted, the less able, girls, rural children etc.), but thereby removes or blocks pupils' later curricular or career choices because the necessary basic subject needed has not been studied. In coeducational schools in almost all societies, domestic science and needlecrafts are presented as alternative, cross-timetabled subjects with metalwork, woodwork and technical drawing, thus blocking any later study of these for the sex not offered them as foundation studies. The processes which deprive girls of opportunities to pursue mathematical and scientific studies in upper secondary schools because they have not been studied in middle, elementary or junior secondary schools, is a second, because the absence of, for example, technical drawing, mathematics, physical science, acts as a filter to sieve girls out of the potential recruitment for technical areas of study, since they are not adequately qualified (whether in actual examinations or even in first-hand knowledge of the subject area and skills needed) for progression. Similarly boys suffer the critical filter process in being educated without domestic education, education for parenthood and needle-craft, which removed effectively their motivation for and training for a full share of homemaking and the dual work/home balance of responsibility. These filters both act however to the disadvantage of girls; the first in blocking their career options in industry and management: the second in removing their future support in the home, from future husbands.

Mathematics as a critical filter

2.30 The evidence that in fact, by the junior secondary years, boys are seen to be performing more effectively in mathematical skills, spatial ability, measurement, number logic, has often been argued as evidence that girls are innately deficient in spatial ability. This, with an unaccountable illogicality, has therefore been used by educational planners and teachers as justification for encouraging boys to pursue studies based on mathematical and scientific studies (which lead to the modern or industrial sector, skilled work and high pay) and discouraging girls from these courses to "filter them out". When pupils, who will be mainly boys, are seen to be more deficient in verbal and linguistic skills, however, they are given extra remedial help, not encouraged to discontinue with the basic tool of language competence. It is disturbing to find that no evidence can be seen of a comparable positive policy in compensatory numeracy and spatial programmes to improve both skills and understanding, in girls. A survey by John Ernest in 1973 showed that of mathematics, English, science and social studies, students showed no significant sex difference in their liking of or interest in mathematics. Ernest and his researchers concluded that more men than women take mathematics to university level regardless of whether they like it particularly better or worse than other subjects but because they recognise that the careers in science, technology or industry which they wish to follow, require it. Women are shown to pursue subjects on the basis however of liking and not perceived need. (41)

2.31 This is confirmed by an Australian study of Vth form secondary pupils (i.e. fifth year) - boys gave career reasons for choosing Economics and Mathematics while girls were more influenced by their liking and interest and their personal achievement in a subject. (42) A second Australian study (43) discovered substantial sex differences in mathematical achievement at pre-university secondary levels, as part of an international study. To some extent this was cause and effect since "boys also spent more time learning mathematics and science" from the age of 14 upwards. In New South Wales, girls appeared to be choosing mathematics in equal proportions to boys but analysis showed that in both mathematics and science they tended to study at the (lower) level three instead of the first (higher) level which more boys studied. (44) This is replicated by Ireland where three-quarters of the boys taking Intermediate Certificates in 1977 (at 16-plus) were taking Higher maths, and four-fifths of the girls taking the Intermediate Certificate were studying Lower mathematics. (45) Also in Ireland, however, following a test programme carried out by the Drumcondra Educational Research Unit in 1975, out of 3,989 pupils tested by 56 inspectors in 245 classes, the answering of girls was superior to that of the boys throughout, and notably in problem-solving, which is usually quoted by psychologists as an innate weakness in girls. (46) The evidence casts sufficient doubt on inherited ideas about numeracy in girls, to cause a serious review of current teaching practice. But it also reinforces the need to take steps to counteract the "critical filter" which deprives girls of mathematics - a policy endorsed by an American Commission in this specific respect. The vocational foundation of mathematics is indeed stressed by this American review in relation to professional non-scientific education:

> "High school counselors and teachers should encourage women who aspire to professional careers to choose appropriate educational programs. They should also encourage them to pursue mathematical studies throughout high school, because of the increasing importance of mathematics as a background not only in engineering and the natural sciences, but also in other fields, such as the social sciences and business administration". (47)

2.32 The separate organisation of single sex education acts as a "critical filter" to both sexes, principally because in *vocational and technical education* it carries an almost widespread corollary of separate and *different* curricula and courses by sex (not by aptitude or intelligence or choice). For reasons of space, only three aspects are discussed - the general issue of the single sex "choice", domestic education and agricultural education. (Other curricular areas will be picked up implicitly in Part III on vocational links with work.)

Single sex or coeducational?

2.33 There are three angles to the single sex/coeducational controversy which are frequently confused and which are not necessarily interdependent. One is the effect of segregation or mixed environments on girls (or boys) as *individuals*. Do they, or do they not, make freer, non-traditional and unconditioned choices in a mixed, or in a single sex class or school? Do they follow more advanced studies, dropout earlier, go further, in the one or the other? Instructors in the German scheme on positive discrimination referred to above, report that, without exception the working atmosphere and general behaviour is far better in mixed groups of young workers than in groups consisting solely of young male workers. It should be added that, based on other research, the pilot schemes are only approved where girls can be placed in minimum groups of (preferably) 30, and no less than 15, for reasons of personal support and identity. For to expect an adolescent to adjust without difficulty to, still less to choose deliberately, a vocational school and course dominated by the opposite sex is not only to expect pupils on the brink of (or past) puberty suddenly to suspend their newfound masculinity or feminity. It is also to expect a degree of confidence and social poise, aggression or assertiveness lacking more in girls than boys in early adolescence. To be in a small minority of ones' sex has been found to be a strain on personal relationships and behaviour even for top professional and mature women: how much more so for children and adolescents. The second, is the even more basic one of what are they offered in the first place as part of a single sex or mixed *system*, i.e. is the range of courses or subjects equally wide in single sex and mixed schools? Is the actual curriculum on offer, common to both sexes across schools, or differentiated by *type of school*, as distinct from by social and psychological attitudes of individual pupils in an open school? The two sets of questions are interrelated but not interdependent. Thirdly, it is essential to distinguish whether the discussion is about *selective* schools (that is grammar schools, lycées, gymnasia) for academically gifted girls; or about vocational and technical schools; or about comprehensive (polytechnic) schools. Both the problems and the research evidence differ for these three types of schooling.

2.34 There is very little research evidence available on this. In 1973, Her Majesty's English and Scottish Inspectorate in the United Kingdom conducted two major surveys of primary, middle and secondary schools and further education colleges (which cater for 16-19 year-olds among others) to investigate curricular differences between the sexes. (48) The survey was not empirically research-based (i.e. it was limited to basic statistical and organisational data and did not probe into individual pupils' backgrounds, performance nor conduct case studies of individual schools. Nevertheless its findings are of major importance, for they highlight the principal barrier facing girls in *both* types of school: they were not *offered* the same curriculum as boys in either environment. This has been found to be not uncommon in other partly decentralised systems. This was especially marked in the case of physics and chemistry, and the handicrafts (wood, metalwork and technical drawing), all of which are crucial foundations to technical and to vocational craft education. But a second important finding which is transferable in the view of many subsequent experts (the schools were carefully sampled to reflect all types and sizes of institution) was that both girls and boys made more non-traditional choices in a single sex school. This is not necessarily to argue that coeducation is disadvantageous; it is rather an argument for investigating what organisational barriers as well as psychological and social ones, condition boys and girls adversely in mixed schools and for removing these barriers. In the U.K., the Inspectorate found that much was simply due to restrictive teachers' attitudes as to what was "suitable" for girls and to organisational convenience (not based on educational or pedagogical principles):

> "Many schools, particularly smaller schools, indicate that problems of timetabling necessitate such (sex) separation. When facilities for home economics, metalwork, needlework or woodwork are limited, the division of the sexes on traditional lines is regarded as inevitable... Of 98% of mixed schools in which the sexes are separated for some aspects of their work only a very small proportion of heads gave educational considerations as major reasons..." (49)

The 1975 (UK) Sex Discrimination Act now makes such sex segregation unlawful in mixed schools where its effect is to deprive one sex of equal and the same curriculum and schools are now therefore obliged to learn new ways of school organisation to remove such discriminatory practices.

2.35 Evidence is also available from Australia that "sex segregation is often associated with discriminatory practices in the allocation of staff, teaching resources and physical facilities, thus limiting students' choices and opportunities", in particular for mathematics and science teaching (50) and this has also been replicated in a study of English schools where for example scarce physical science laboratories were allocated to boys at the expense of girls on vocational ("breadwinner") grounds (e.g. physics was regarded as essential for boys' later admission to apprenticeships; but not for girls). (51) Much of the available, if limited, research on the single sex/coeducational issue throws more light however on girls' academic choices rather than their vocational ones. There is an urgent need to look further at the effect of sex segregation on girls' career routes in relation to their increased participation in technical fields in particular. This highlights a new shift in this debate. It is less now a matter of environment than of the actual subject options and courses open to girls, whether they are in girls' or in mixed schools. The main objection to girls' schools is rather that in most if not all cultures they have received a lesser financial and resource investment than boys' schools, a more limited range of specialist staff, courses and equipment suitable for advancing girls' education in skilled, technical and technological areas. For those countries who still see a social, cultural or religious need to preserve single-sex schools (and there are those in which this may still be the main method of advancement for girls), the question is less one of reorganisation than of upgrading - of objectives, of range and of depth of courses and subjects. For those countries on the other hand with no such traditional or inherited limitation on educational planning, the economic advantages as well as the lessening of the polarity of sex roles which will accrue from mixed education must warrant more compelling attention. The question for this second group of countries is rather how to conduct improved research and monitoring of the different behaviour patterns and motivation of girls and boys in mixed learning situations so as to provide support counselling services or alternative pedagogy to counteract the apparently adverse effect of some (not all) mixed learning environments on girls' likelihood of pursuing (a) advanced studies and (b) non-traditional subjects and courses. American and English research into science education for girls in particular, raises fundamental questions whether the competitive atmosphere of mixed science classes is not disadvantageous to girls. No research so far can be said however to be conclusive or widely transferable across countries or cultures.

Some major areas where actions may be undertaken to solve the problems of "critical filters":

(1) Where single sex schools are preserved for social, cultural or religious (as distinct from educational) reasons, these should be provided with the same range of subjects, the same courses, the same quality and range of teachers and offer the same range of terminal qualifications as those offered to boys and in mixed schools.

(2) Positive steps should be taken to educate parents, pupils, teachers and guidance staff; no vocational education or training course should be restricted to or designed for one sex only, but all are open to both sexes to reflect an equally open labour market. (This is now a legal corollary in those countries with antidiscrimination legislation).

(3) National Ministries responsible for education and training should consult appropriate interests in their own countries to form a coherent research programme over the next five years to eliminate duplication of research projects and to establish policy-oriented research in the following priority area:

> the performance and motivation of girls and boys or men and women in single sex and mixed learning environments respectively in general education, mathematical and scientific education and in technical and vocational education and training.

2.36 The following sections on domestic and agricultural education should be read against the setting of Annex B on The work ethic and women's dual role which contains the background material to the traditions which have led educational planners to provide sex-differentiated "vocational schooling" to reflect expected sex-differentiated work and home roles in pupils' later adulthood.

Domestic education as a "critical filter" - vocational or core?

2.37 It will be recalled that in 1979, the European Ministers resolved that education systems should prepare all pupils for the sharing of domestic and parental responsibilities. It is sometimes suggested that the extent to which a community provides for education in single sex schools indicates the extent to which it sees boys and girls requiring different preparation for different societal and family roles. It could be conversely argued that a society which does reorganise coeducationally but then persists in providing separate courses for boys and girls (or courses with a sex-differentiated bias presented as mutually exclusive "options" to each sex) is still clinging to these distinct societal roles against prevailing ideology and against a growing practice of changing and merging sex roles. It should be understood in preparing young people for adult life that to prepare for interchangeable roles in the labour market without concurrently preparing both sexes for equal responsibilities and rights in the home is often doubly to handicap women, not to advance them. Integrated planning as between the Ministries of Education, Labour, Social Security and Health and Welfare on a common social policy in work and home for adults is therefore essential for which the education service must then surely consider how best to prepare both sexes in schools.

2.38 A survey of technical and vocational education in the 1960's illustrates yet again the ambiguity of global statistics as a diagnostic tool. In a number of countries domestic science was included in girls' vocational and technical enrolments although clearly it by no means always (or even mostly) leads to employment. For example, Iraq's female students entered at "skilled worker training" level were all on domestic science and dressmaking courses. In Chile (1963 figures) over half of the 35,727 girls in technical and vocational education were on domestic science courses; in the U.S.A. nearly three-quarters. (52) In the U.K., the cause of girls' education was set back by a decade in the technological 1960's by the Government-sponsored Newsom Committee which, because it considered that "For all girls, there is a group of interests relating to what many, perhaps most would regard as their most important vocational concern, marriage..." recommended the creation of "Newsom courses" of wifehood, motherhood and housewifery for the 50% of girls who were not academically inclined or technologically gifted, at the expense of, not in addition to, vital mathematics, science, craft education and technical education. (No parallel courses in fatherhood, husbandship and homemaking were developed for boys.) It is the word vocational in this context which is questionable. The economics and science elements of Home Economics and Domestic Science are often untraceable in significant proportions and where they do exist, have a low transfer value in no way comparable with that of, for example, Technical Drawing. It may be argued that they are synonyms for such courses as paramedical, welfare or catering. The curricular evidence does not support this.

2.39 An examination of current practice shows no change over the last decade. Domestic education for girls forms their major "option" in most countries and only about a third of the sector offers employment-related vocational education, which is not offered to boys. In Ireland for example, girls in secondary schools are taught cooking, knitting and laundry. Domestic science is a substantial subject, is cross-set as an alternative to the technical and manual crafts taught to boys and has no vocational side outside homemaking. 22,000 or so girls took Home Economics in the leaving certificate, only 123 boys in 1977 although in theory 573 schools offered it to girls and 78 schools to boys. In Luxembourg, domestic science in the cours complémentaire is entirely homebased (knitting, cooking, homemaking, laundry) and is cross-set with woodwork and metalwork for boys. In rural education, boys at the Ecole Agricole prepare for an Agronomic Technician's Diploma and therefore for skilled employment; girls at the separate Centre de formation de ménagère rurale are taught rural, domestic economy leading to a lower level Brevet of Agricultural Domestic Studies. In Italy, the istituti technici and the istituti professionali which are the second-cycle vocational alternative option to the pre-university licei, channel over 17% of girls into Istituti Femminile with a syllabus of which over half is homemaking, although dietetics and catering can be studied. In the Netherlands, 80% of girls on vocational courses are in the huishoud en nijversheid schools of which most are domestically oriented, but some include welfare and paramedical training. In Uganda, single sex secondary schools for boys offer woodwork, technical drawing and metalwork, for girls home economics as vocational areas "because to parents and pupils the first seems appropriate for boys and the second for girls".

2.40 *Indonesia* divides its junior secondary schools into general; economics; home economics; and technical or agricultural schools, which are matched at senior secondary level with the addition of teacher training. Of enrolments in home economics schools in 1977, girls were 96% in junior secondary and 100% in senior secondary schools. This presumably partly reflects the Indonesian marital laws and practices which state that "The role of husband and wife is clearly delineated: the husband is the head of the family, while the wife is the head of the household". (53) In *Bangladesh* (54) the new curricular scheme at secondary level has as one objective "to develop interest and ability to participate in ordinary household activities in everyday life", and the four broad work experience areas to be integrated into basic education are agriculture, industry, social welfare and home economics - the latter again designated as *vocational* rather than as a part of basic general education for both sexes. In *Singapore* (55), multipurpose schools established in the 1960's, offered both academic and technical courses in which "girls were to have the option of taking home economics". After a reorganisation in which vocational schools were phased out, a common curriculum in bilateral schools introduced Technical Drawing in lower secondary schools for *all* pupils - an encouraging step foward for girls. But the logic was not followed through - for workshop practice was provided for all boys *but only 50% of girls*, the remainder of whom studied Home Economics. A logic of equality would have surely led to either both subjects for all of both sexes (preferably) or for a division "by *aptitude*" for all of both sexes. In the same way that Technical Drawing has major transferable skills needed by girls as a foundation for later technical education (sensory-motor co-ordination, graphicacy, etc.) so arguably does homecraft, which should similarly become a core subject for all. But in 1977, the modified primary curriculum in Singapore was further supplemented by "training in Workshop Practice for the boys and Domestic Science for the girls" however, illustrating that changing sex roles in Singapore's labour market are not reflected in educational planning. In the *Philippines*, the objectives of the educational system have been clearly centred on its contribution to national economic development, and on education's contribution to individual economic and social progress of which occupational and social mobility are seen as the principal benefits. A corollary is stated to be "a national work force capable of meeting the requirements of national development". Yet while the prevocational activities in the lower secondary years are mainly agricultural (60% or so of the work force are in farming) and craft-oriented - *girls* "are given training in handicrafts, cooking and sewing in the home economics curriculum", while boys are given gardening and workshop practice. The girls' later activities are clearly seen predominantly in a home-based context therefore and not in a vocational sphere *external* to the home. (56) The *Malaysian* report also describes the vocational schools as "concerned with equipping the students with employable skills", but Home Science schools "are aimed at spreading basic education in the art of home management" (not strictly speaking *employable* skills), although a later section does refer to the employment of Home Science students as Welfare Assistants and Stewards (Work areas of low pay and little or no career progression). Elective subjects are dressmaking, cookery, needlework and general housecraft, and almost all Home Science "vocational" students are girls. (57)

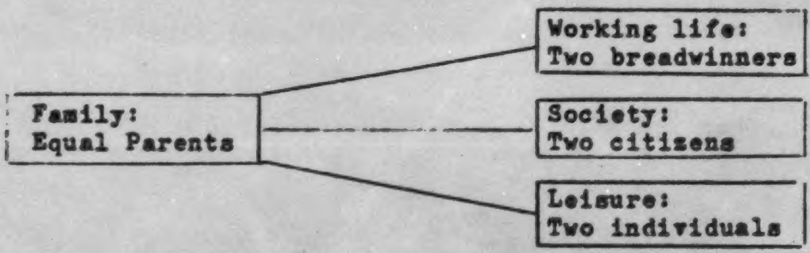
2.41 If there were any doubt indeed about the poorer preparation for working life which a Home Economics course offers girls, some recent figures from *Thailand* remove this. A survey conducted by its National Statistical Office and Manpower Planning Office because of concern about the high proportion of vocational school leavers who were unemployed, showed consistently much higher rates for Home Economics vocational school students than for other sectors - 78.1% leavers from Home Economics were unemployed in 1974 as against 55.6% from agricultural schools at vocational level, and 68.5% as against an average of 50.8% and 45.4% respectively from agricultural or commerce technical schools, at the technician level. (58)

2.42 It is difficult to say without further research whether it is coincidental that the four EEC countries with the strongest segregation of female domestic education (Ireland, Italy, Netherlands, Luxembourg) are also those with the lowest proportion of girls in vocational and technical education (except for Luxembourg's commercial sector) the lowest proportion of girls in non-traditional "male areas" and the lowest proportion of adult women in economic activity in the labour market. By contrast Germany, France and Denmark have the highest proportion of girls in technical, as well as vocational education; a higher rate of female economic activity; and the highest proportions of girls and women in "male-dominated" vocational and employment sectors. And it is in these three countries that both the technical/manual and the domestic/needlecraft areas form part of a common core taught to both sexes in the first cycle of secondary education (i.e. from about 11 years to about 14 or 15 years). In the Federal Republic of Germany, this reflects a new consensus on the changing sex roles in society which involve men taking a more substantial part of family responsibility, and which give a degree of legislative equality to the concept of alternating as well as dual roles. Paragraph 1356 of the West German Civil Law, under the old version, reads: "The housewife leads the household under her own responsibility. She has the right to work for gain as far as this is compatible with her marital and family duties". The new version of paragraph 1356, however, more accurately reflects the actual changes in family structure and in policy planning in the Republic.

> " Marital partners settle the management of household after mutual agreement. In the event that the management of the household is left to one of the partners, the latter has to conduct it under his or her responsibility. Both partners have the right to work for gain. When choosing and exercising their activity, they have to take into account in the appropriate way, the interests of the other partner and of the family."

In Denmark also the legislative Acts on marriage are based firmly on the principles that the spouses are independent persons on an equal footing and that both have the same obligation to provide for the support of the family, and in Denmark, both home economics and textile work and woodwork are taught across the sexes in the Folkeskolen.

2.43 The increasing pace of social change and the high rate of female economic activity in Sweden has now led to a national redefinition of sex roles as a basis for all future policy planning, that is:


Family:
Equal Parents

Working life:
Two breadwinners

Society:
Two citizens

Leisure:
Two individuals

and this is now the basis of an integrated process of educational planning, employment policy and social security legislation. (59) The Swedish Government had already recorded its decisive view in 1968 that "no rapid advancement of women in employment and the professions, politics, trade union activity, etc. is possible as long as men fail to assume that share of the work in the home which falls to them as husbands and fathers". The achievement of this implied, for Sweden, the "obligatory instruction of boys as well as girls in domestic science, cooking and child care. It is to be hoped that this instruction will result in domestic work and child care being looked upon as the task of both parents in future". (60) Accordingly the 1968 Parliament made both technical handicrafts and the homecrafts compulsory core subjects for both sexes up to and including Grade 6. Much indeed has been written by child psychologists and by sociologists about maternal deprivation because of the absence of a mother during the day. Only in the last decade, and principally as a result of a more open debate in those societies in which sex roles have become more interchangeable, has the concept of paternal deprivation become current, and a serious issue. The concept has implications for the training of men in nursery teaching, childcare and child (medical) nursing, so that young children of both sexes grow used to role models of both sexes to meet their varying and intermittently changing needs. In Denmark, positive efforts have been made to recruit men to infant school teaching and 11% of teacher training applicants for this age range were men in 1977.

2.44 It is important that the whole question of family and domestic education is not seen as one of social policy divorced from educational planning. The channelling of girls alone into domestic education and the failure to educate boys for a dual role, constitute two of the most inexorable barriers to women's progress in vocational activity outside the home which yet persist. This was recognised by the Parliamentary Assembly of the Council of Europe, which debated in considerable depth in January 1975, the whole question of the "position and responsibility of parents in the modern family and their support by society". (61) The Assembly recorded its recognition of a joint parental responsibility for children's upbringing and that the choice lay with both parents as to the division of roles ("both parents are entitled to the opportunity to participate in the upbringing of children and in paid employment"). The Assembly not only recognised, however, the socioeconomic changes in all advanced societies which led to increasing employment of parents, but also that the "interests of parents and children are best served by the entry or re-entry of parents into employment or other work in society outside the home once the most intense period of family responsibility is ended". (62) The Assembly did not think however that the "more symmetrical internal relationship within which the married partners share the rights and duties more equally" would materialise without the adoption of positive policies in the areas of family law, social legislation, labour and education

> "which promote and safeguard, as far as possible, the equality of men and women, and a genuine partnership between them, in such a way as to enable parents to choose between remaining in the home and taking up paid employment, without prejudice in either case to the upbringing of their small children or their own interests in terms of social security and other social benefits". (63)

2.45 The world plan of action adopted by the World Conference of the International Women's Year in Mexico City on 2 July 1975, also endorsed this in the same year:

> "The achievement of equality between men and women implies that they should have equal rights, opportunities and responsibilities to enable them to develop their talents and capabilities for their own personal fulfilment and the benefit of society. To that end, a reassessment of the functions and roles traditionally allotted to each sex within the family and the community at large is essential. The necessity of a change in the traditional role of men as well as of women must be recognised. In order to allow for women's equal (fuller) participation in all societal activities, socially organised services should be established and maintained to lighten household chores, and especially services for children should be provided. All efforts should be made to change social attitudes - based mainly on education - in order to bring about the acceptance of shared responsibilities for home and children by both men and women." (64)

The translation of this into practice involves reviewing three aspects:

(i) the dependence syndrome of educating girls for marriage and non-work;

(ii) the provision of help in domestic and child care services for home-based and for working parents;

(iii) the development of re-education and retraining facilities for home parents (who will be mainly women) wanting to return to work.

Structurally, the teaching of homemaking, parenthood, cooking, domestic skills should be part of a common basic curriculum compulsory for both sexes up to the school leaving age as a matter of course. The subsequent blocking of groups of courses dealing with such areas as child care (nursery nursing, infant teaching, residential work), welfare (social work, the handicapped, hospital almonry) and catering (hotelier, residential catering, school meals) would then be truly vocational, and would lose much of its "feminine" label by its divorce from Home/Domestic Economics.

Suggestions for actions:

(1) domestic science and home economics should be removed from the vocational designation, and the family life element of these courses re-integrated into a compulsory core curriculum for both sexes to be included in all general and academic education and in vocational courses up to the age of about 15 years;

(2) work-oriented courses in welfare, dietetics, paramedical studies and child care in the professional areas external to home-rearing of children, should be removed from blocks of courses designated as "home economics" and resited as full vocational courses in coeducational and polytechnic educational schools, colleges or centres wherever possible.

Access of girls to agricultural education

2.46 It is now over a decade since a regional seminar on youth and development in Africa recommended that "women are equally capable of being trained in what are often regarded as male occupations and ... In one particular area, agricultural training, there should be absolute parity of access to training in view of the importance of women in traditional agriculture". (65) One difficulty which the seminar recognised, was the strong traditional bias against training women (the implicit male priority again). It is also ten years since the experts gathered in Accra recognised the need to promote women's work in rural areas in all agricultural skills "generally regarded as appropriate to men - they should not be left to acquire these skills informally as happens at present ... it would in no way be overstating it to say that this aspect is one of the key elements in the balanced and effective mobilisation of human resources for agriculture and rural development". (66) This was particularly recommended in the light of a scheme in Ghana where women were encouraged to attend farm institutes with men and to learn techniques of vegetable production, which had established beyond doubt, women's equal talents "in the light of their common abilities and aptitudes". (67)

2.47 Yet women do in fact remain the principal producers of food in many parts of the world where pre-agricultural-revolution methods persist. 70% of Indonesian female labour was employed in agriculture in 1976. Ester Boserup writes that "Africa is the region of female farming par excellence. In many African tribes, nearly all the tasks connected with food production continue to be left to women". Both in Africa and parts of Asia, the introduction of cash cropping in lieu of subsistence farming has led to a wide erosion of traditional rights and powers traditionally held by women including their economic control over surplus sales. (68) The twin problems of the move to mechanised/modernised farming are that the transfer of hand hoeing, horticulture etc. to plough and tractor, first transfers work from women to men because the former is compatible with child care and the latter is not. (And the less labour-intensive the advanced agricultural method, the more male competition women face for the few jobs remaining, as in the Italian Mezzogiorno.) Secondly, the general prejudices against training women with machines, means that men take over and receive the training; there is widespread evidence that as soon as modern agricultural techniques are introduced, women are denied access to these and to the training programmes which equip workers to use farm machinery and technical methods of food production. Even the investment by western development agencies in new technology has tended to reinforce investment in men as future breadwinners. In Africa - where in fact it is African women who provide most of the agricultural labour for both subsistence farming and cash cropping, rural extension programmes and agricultural training programmes are both staffed and attended by men - even unemployed men. Reasons include not only the perceived status priority of African men, but also social and cultural traiditions which hinder some rural women either from travelling alone or accompanied by men to the training centres or from training with men.

2.48 But while the sex-segregation of vocational and technical courses in the industrialised countries is strongest in the industrial or "modern" sector, in the developing countries it is, conversely, most marked in the area where most employment is concentrated - that is, in agriculture. Unesco's 1968 survey of vocational and technical education for girls showed that 11 out of the 12 African states surveyed, restricted agricultural training to boys only; in Costa Rica, Mexico and Canada girls were however between 40% and half of agricultural trainees; in Asia, Japan, Israel and Thailand had from a third to two-thirds female students in agriculture; and in Europe, 10 out of 11 countries admitted girls but had very low female recruitment. Since the early 1970's, in Sri Lanka, the (coeducational) school of agriculture at Kundasale (the only second level agricultural school in a country where over half the population works in that sector) applicants have been required to have a science-base before being admitted. This and the limited hostel facilities has recently begun to limit female recruitment to 20%, although girls have typically been 47% of applicants (1972/73). Within the school, however, the Rural Home Management course is limited to girls and few are enrolled in Farm Engineering. 30% of students at the oversubscribed Practical Farm schools are girls. But again, girls are unable to train at the school of Animal Husbandry in the North through lack of hostel facilities. In Sierra Leone, although 89% of employed women work in agriculture, representing 58% of the agricultural labour force, no agricultural places are available to girls and none are planned. Similar evidence is available for other African states (e.g. Botswana, Ghana, Ivory Coast) where the "formal equality" of the administrative rule is negated by the actual reservation of agricultural training for boys.

2.49 Margaret Mead suggests that this is at least partly because of a persistent, if unfounded belief that women cannot actually handle modern machinery. This is entirely characteristic of the Mezzogiorno in Italy where women used to be the major agricultural labour force. With the mechanisation of agriculture in post-war years, Italian men have been sent for technician training and have gradually now replaced the women - who are therefore now a majority of the southern unemployed. Where this undertraining of women occurs in Africa, one consequence is a diminution of food production, particularly in areas where men work away from their villages. Mead also points to further positive dangers in segregating functions in agricultural production on a sex-divided basis. She suggests that the origins of establishing technical agricultural schools for boys and rural home economics schools for girls lie in the Eruopean and American historical allocation of the initial, pre-harvest, production of food by technical means to men, and the allocation of post-harvest food produce to women. She argues that this separate and sex-divided professionalisation of agricultural roles has led to the devaluation of nutrition and of the distributive aspects of food production and hence of home economics in its widest sense, and to the increased masculinisation of farming. (69)

2.50 Delegates from Zambia, Upper Volta and Kenya to the Mexico City Seminar on Women in Development (1975) (70) expressed their continuing concern about this, and pressed strongly for agricultural extension programmes for women in modern seed technology, fertilizers and insecticides. Evidence from Cameroun and Iran was quoted to show that when care was taken to involve women (and not only men), productivity did in fact increase. Also as the areas farmed, themselves increase with mechanisation and women's work in weeding etc. increases, parallel instruction in nutrition and food preservation is important. It was stressed that families should be trained as units, and some felt that women's prior basic education was so disadvantageous that they needed special programmes which incorporated more general education with the vocational skills. It was noted that for the last six years (to 1975) women in Zambia have been trained in all agricultural subjects and hired equally with men, to great effect. Projects to open up agricultural training for women would generally need to be labour-intensive, self-multiplying and capable of easy replication, high in self-help or voluntary (but trained) staffing, and striking a balance between accelerating change and avoiding unnecessary or tense discontinuity with existing cultural traditions. This is partly because of competition for scarce resources for training and development.

2.51 Among other problems identified by experts are lack of follow-up advice and teaching by agricultural extension advisers to help to set up viable agricultural units; and the need for credit facilities for buying such small capital equipment as pumps for irrigation, fertilizers and better seeds. But in general, the problem facing women is more acute because they cannot obtain credit facilities as easily as their menfolk. In Senegal one Community Development Inspector suggests the need for training to take place out in villages decentralised from a vocational centre, a Ghanaian presses for the need for farm technology for women, in Upper Volta the plea is for realistic and inexpensive technology that can be widely used at low cost and adapted to local conditions (71) - which means, it is argued, in Senegal at least, increased investment in wells and transport to free women from domestic labour to give them time for training and agricultural work. (72) Here we begin to see the inter-relations of economic, educational and development factors. To deal with the range of problems which are illustrated in the case of agriculture, requires firstly, the removal of the structural/administrative barrier which labels schools for boys and prevents girls' admissions. In some countries, this means extra hostel places. In most, it means educating by community education, the local community to accept a further change in sex roles - back to women's original status on the land, to justify investment in their training. It involves rural extension work, and improved rural basic education for illiterate rural agricultural women. And it involves Development Fund investment in low cost technology as well as continuing education in how to use it and how to manage small farm units. It is cited here however also as an argument for major curricular reform in the main vocational school system in those countries which separate agricultural technical training (male) and rural domestic economy (female) - which includes countries like Ireland and Luxembourg as well as others in Africa and Asia.

2.52 In view of the major role which women play in agricultural work and the continuing importance in world terms of efficient food production indeed, the continued exclusion of girls and women from agricultural training makes neither economic sense nor a basis for equal opportunity. The position is different as between industrialised and non-industrialised countries. In the industrialised countries, measures are needed to encourage girls and young women to see farming and food production with the same expectation of suitability and attractiveness which has enabled women in the past to become outstanding farmers and stock breeders. This is a question of guidance and publicity by schools, trainers, careers advisers and Ministries. In countries where technical schools for agriculture discriminate against girls, or offer them a different curriculum because it is perceived to be more suitable (Ireland, Luxembourg) the structure of curricula and admissions procedures will also need review to open up the full technical avenues to girls. In the developing countries and in some semi-industrialised Asian countries, the problem is more complex. In countries like Sierra Leone it may involve the increased provision of schools and hostel accommodation before girls can be offered equivalent places, and the immediate provision of a girls' hostel at each of the boys' agricultural schools now would open up substantial opportunity. The basic agricultural education of women past school age cannot be disassociated from the literacy problem and an integrated plan is needed to provide for rural extension programmes, for the introduction of simple and intermediate technology and for credit facilities for small capital equipment for trainees to apply their skills once learnt. It is difficult to see how this can be achieved without the closest and most integrated collaboration between the relevant Ministries and Government Agencies for Education, Employment, Agriculture and Technical co-operation. Again, some hostels will be needed at centres providing for craft and technician education on an area basis, but there can be no sounder long-term investment than in skilled training of food producers.

2.53 What may serve the community better, as well as girls and women, are schools of agriculture in which all of the skills relating to food are taught together, open to both sexes without sex role segregation of function. For example, crop cultivation and animal husbandry, nutrition and food management, cooking and food preservation, veterinary skills and the physiology of child development, are inter-related fields. It would be possible to structure a three-level course - vocational, technician and technological - of which the first level would be available widely, the second level in area centres and the third level more selectively. The courses would be progressive within each sub-discipline. The development of such (coeducational) - often residential - schools, centres and colleges is a vital need as the world's need for increased and more efficient food production and dispersal grows more acute. Women are a valuable and under-used human resource. Additionally, the wide range of training sectors outlined above would lose their sex-segregated labels. Just as extension of universal primary schooling and of adult literacy should not be seen as mutually exclusive alternatives, there is a need to re-educate adults (especially in rural areas) simultaneously with the education of young people in new skills, without which older people often either will not - often cannot - understand the need for changes in traditional attitudes and therefore will not collaborate fully with their younger colleagues or kinfolk. Possibly the development of Community Rural Colleges from a base of existing secondary schools would help this social integration process. A Community Development Department in every secondary school in which adult and community education were available, and staffed by a professional Head of Department with a team of (trained) Voluntary Workers, pending a supply of qualified permanent staff, would be a desirable long-term objective.

2.54 The following actions may help to solve the problem of opening up agricultural education and training to girls and women:

(a) at national level

(i) opening up of existing agricultural schools to girls and women; encouraging girls and women to attend these schools by providing them, if necessary, with adequate assistance such as hostels, transport and scholarships;

(ii) introducing or reinforcing as appropriate the components of agricultural education and training in the out-of-school programmes for adults and opening these programmes to both sexes;

(b) at international level

(i) material assistance to help countries lacking adequate resources to enable them to design and implement programmes for girls and women;

(ii) specialised expertise in those areas where national expertise is in development.

Male priority in educational planning

2.55 So far the accent has been on sex differentiation as such within existing systems. In some countries, of which Sierra Leone is taken as an example (for the sole reason that relevant documents are available but in which it is by no means alone) the theme outlined in Section I of "automatic male priority" is seen at its sharpest in the context of educational planning. (The data is drawn from the Unesco study cited earlier - see bibliography.) This example is also selected to illustrate the difference between formal equality and factual equality.

2.56 As long ago as 1964, the Education Act in Sierra Leone declared that "there shall be no discrimination on the basis of race, colour, language, sex". It also stipulated that "where separate educational institutions for pupils of the two sexes were maintained, they must offer the same standard, premises and offer the opportunity to take the same course of study in order not to be classified as discriminatory". The survey team commissioned by Unesco in 1974 then recorded the opinion that "women have access to all types of technical and vocational education facilities. The trend is for technical and vocational institutions to be open to both sexes." The evidence however does not support this. For example, the vocational schools for girls offer only courses in Home Economics, Secretarial and Commercial subjects. Of the total vocational and technical schools in 1970-71 there were no vocational and technical schools for girls, there were one in each of three out of four provinces for boys, and one was mixed. Provision for girls was alternatively in schools designated as "secondary schools with technical and vocational subjects" in the survey (but which in fact offered no technical subjects, and no agricultural education for girls (as the preceding section shows). The level of study was not moreover comparable with that offered to boys. One rural girls' vocational institute offered only Home Economics and Commerce and Secretarial Studies but "the students of this Institution are not prepared for examinations". A second offered Commerce and Home Economics and Secretarial Studies only but did prepare for vocational examinations - although these were a lower level than the technical and agricultural terminal qualifications which are offered to boys. The vocational guidance system (offered in only 35% of institutions) does not operate until after the vocational decision has been taken by the students on enrolment and therefore cannot hope to counteract girls' traditional choices in the mixed institutions. The subjects (as distinct from courses) studied are denied to girls in the areas of (a) the sciences and (b) the pre-industrial areas of Technical Drawing, Woodwork and Metalwork, which substantially accounts for their lack of enrolment in technical studies. These are an essential foundation attitudinally as well as educationally. A number of case studies by the research teams in 1974 also showed that discrimination by employers barred girls from apprenticeships (for which the schools had not also prepared them educationally) and from part-time day training courses (no female enrolments at all). The survey of employees and the survey of training facilities conducted by the Sierra Leone research teams suggests that (a) the gap in provision is largest at the middle (technician and equivalent) levels, and (b) that the mismatch between demand for skills and recruitment of properly qualified employees was also most striking at this level. Moreover growth in the main "female" vocational field (commerce) was expected to be minimal according to a manpower exercise while growth in the "modern" sector was higher than in other sectors of the economy. To educate women for these "male" areas is therefore realistic as well as socially just.

2.57 The planned distribution of schools was also geographically uneven - there were more secondary school opportunities for boys than for girls in two out of the four provinces, and lesser provision for technical and vocational courses for girls in all four provinces. Indeed, the geographical/rural dimension is entirely characteristic of aggregated inequality. The dense urban area is now four times as well served as the rural areas; 2 out of 4 provinces have only about half the extent and range of provision as the other two. Within this distribution "training and education facilities for women are primarily concentrated in one area of the country. The distance factor must be overcome before women of every area can avail themselves of such facilities" - which means more boarding hostels for women. Only 5% of students on technological courses (in mixed institutions) were women. It is questionable therefore whether the intent of the 1964 Act had ever been presented as a social and educational reality of expectation to girls as well as boys in the primary school from which the secondary schools recruited or to teachers and to parents. Conversely, although only 7% of all working women work in commerce, and are 42% of commercial employees, 70% of all female students on vocational courses were in commerce - although only a minority of them on these would find employment.

2.58 Finally, in the context of educational planning, a major I.D.A. development project has been approved for Sierra Leone, covering 11 secondary schools in which no provision is made for girls to have access to technological education, but 2,400 places for boys; and there are no proposals for upgrading of the provision of science education for girls. It is difficult to reconcile this with either the "formal equality" of the 1964 Education Act or the apparent belief of the educational planners and institutions that there was equal access for both sexes. There is some proposed provision in the I.D.A. plan for agricultural education at 3 girls' schools, which is a welcome development; but the planned total new provision for the two sexes still remains 2,660 places for boys: 540 for girls, which cannot be interpreted as equality in the functional (or in any other) sense. Moreover the aggregate of vocational places for girls (commerce, home economics, agriculture) remains 2,149 as against 5,726 places for boys.

2.59 Thus Sierra Leone illustrated that planning for progress needs to involve concurrently, all levels of education and several sectors of government activity. The literacy figures which we saw earlier are such that only a steady, structured and constant extension of both primary education and adult literacy programmes in the rural areas would provide all girls and women with the educated base needed for further learning. Not until the secondary enrolments reach equal levels, are the vocational training and employment figures likely to alter. Development plans need also to include a policy of equalising rural/urban opportunity and of opening up all vocational and technical avenues to both sexes as a matter of immediate priority. It should be stressed that a similar survey in debth of a number of other countries in the region, is likely to reveal a similar pattern, and that remedial and preventive actions may be based on certain major objectives such as:

(1) introduction in the initial and in-service training courses for educational planners and administrators of positive material on education for sex equality;

(2) adoption of medium and long-term national plans for the achievement of full sex equality in all planning projects with immediate implementation;

(3) affectation of a fixed quota of international aid to projects aiming at achievement of sex equality in education (equal provision, equal access and the same range of curricular courses).

Planning for equality?

2.60 We have looked at part of the sharper aspects of planned sex differentiation. Another group of countries appear to have attempted more consciously to plan for sex equality in education, with significantly good results in their improved access of girls to "non-traditional" areas of vocational education. Yet even these have not been able to free themselves from the traditional "double-standard" of domestic education for girls and women but no domestic preparation for family responsibilities for boys and men. For at the other end of the spectrum, we have the socialist countries whose social and economic objectives presuppose a high proportion of working women, a high priority for production sectors of the labour market and a substantial investment in vocational and technical education. Their education systems are consciously and comprehensively designed to reflect these goals and tend to stress equality between girls and boys as a fundamental principle of the planning of, and arrangements for access to, secondary schools. In Poland, the Democratic Republic of Germany and USSR (73) for example, coeducational systems operate throughout with a stated common basic curriculum across the sexes. This may well account for the unusually high proportion of girls studying industrial skills as well as commercial courses in vocational and technical schools in D.R. Germany and USSR. (Women account for 65% of employees in radio electronics in the USSR, for example.)

2.61 Most, if not all, socialist countries have indeed clearly defined and unambiguous policies in this respect. In the Democratic Republic of Germany for example girls and boys follow an identical curriculum in the expectation that both will prepare for some form of occupation.

> "Socialist citizens should be distinguished not only by a high standard of education. They must also be highly qualified experts in specific fields. It is therefore not only the established constitutional right but also the duty of every citizen to learn a vocation, that is, to complete a full vocational training or course of study after finishing school." (74)

The ten-year (6-16) course of the basic "polytechnic" secondary school in the G.D.R. offers a common curriculum regardless of sex which includes at secondary level, technical drawing, electronics and economics as well as mathematics and the sciences; and most schools are coeducational. Extended secondary education leading to the Arbitur examination and university is available for some, but most go on to a two or three-year vocational occupationally-biassed course. The goals of the USSR also summarise the essence of an integrated approach.

> "School does not pursue the task of giving a profession to every leaver. It only prepares the pupil to master a profession. The realisation of this approach to the problem is more complicated than merely to give a profession. The conceptual outlook on the working education of pupils includes in a broad sense the ability to do manual work, brainwork and creative work, experimentation of various kinds, acquisition of professional skills, participation of the productive work. It includes also the inter-relationship between adolescents, the attitude of adults towards youth ... The main task of working education for youth is theformation of the readiness to work which includes two components: moral and psychological and practical preparedness." (75)

2.62 But even in the socialist countries, the "formal equality" statements of intent and the curricular equality objectives are not always translated into their full logical organisational and timetabling corollaries in curricular programmes. The USSR for example, explains very fully and cogently, the thesis that for young people to be psychologically as well as practically prepared for productive life, for the true appreciation of the role of industrial technology and for practical readiness, for this, they must be experienced in related practices as well as theoretical experiences in the formative years.

> "The practical preparedness is characterised by the level of polytechnical knowledge and practical abilities and skills acquired ... working education at secondary school is, first and foremost, a realisation in the process of working activities of an integrated system of factors which should lead to inculcating into pupils those characteristics necessary for life".

But the USSR still divides all girls from all boys at the key vocational upper secondary stage in one crucial respect. All pupils do, in the first level, study a common curriculum including technological education. At the second stage, two different work study programmes are now in operation. In Version A, urban girls study service work (e.g. welfare, child care, pre-nursing, etc.) - but boys, technical work. Rural girls study agriculture and service work; but boys agriculture and technical work. In Version B, it is stated that "the programme of vocational training is common to boys and girls" and in grades IV to VI a common technical or technological education is indeed provided. But in grades VII to VIII, differentiation by sex - not by aptitude, ability or interest - is reintroduced, and despite the fact that "it is quite natural that boys and girls should begin such studies having equal level and knowledge and skills" in for example, electrical engineering and electrotechnics, boys in Version B are still given 70 hours of work with wood, metal, technical drawing, electrical engineering, etc., while girls in the same grades take fabric work for 40 hours, foodstuffs for 12 hours and only "get acquainted with electrotechnical and engineering studies for 18 hours". (76)

2.63 It is perhaps hardly surprising therefore that "women (in the USSR) still tend to gravitate towards conventional occupational fields ... women constitute a majority of all persons working in the textile industry (surely a straight reflection of the 40 hours of fabric work in vocational upper schooling?) and in the fields of education, about 80% of those working in the health and paramedical fields". (77) Again surely a cause and effect of girls being presented compulsorily with a services sector vocational education? To balance the picture - and in a sense to reinforce the point, women in the USSR are also more than 65% of those in radio-electronics - probably also a result of the presentation of this field to both sexes as part of the normal basic upper vocational curricular programmes. Given the USSR's stated determination to open up all areas of training to women equally with men, no pedagogic, social or psychological explanation is given for suddenly reverting to sex norms as a planning basis in the crucially influential adolescent grades VII - VIII, and in compulsorily separating the sexes for services or for technical training to reflect the existing cleavage of the labour market. This is particularly in contrast to the later statement in the Soviet report that work experience projects and vocational orientation should "be selected in view of socio-pedagogic technological and economic factors", - not, therefore, surely by sex of student? These two contrasting programmes are apparently now being tested in the USSR. If research and evaluation reports are later prepared, it would be valuable to see some form of longitudinal analyses of the subsequent career choices and family patterns of girls and boys from each of the two types of programme (one wholly sex differentiated; one three-quarters integrated), published and widely disseminated in one of the world's international languages.

2.64 Notwithstanding the persistence even in intentionally egalitarian systems of separate sex roles in the preparation for homelife, as distinct from working life, an examination of such evidence as is available on the relationship between the planning and construction of vocational education, the national economic objectives, the expected economic role of women and the actual status of women suggests certain correlations. Westernised societies which have defined and integrated national social and economic objectives which involve interchangeable sex roles in the labour market, are also those with the least sex differentiation in the vocational system, the highest proportion of girls and women in vocational and technical education, higher proportions of women in non-traditional training and work and a positive policy of family support services (Sweden, Hungary, Federal Republic of Germany, Bulgaria for example). Conversely, countries with a strong social expectation that women's place is in the home, and that the main economic contribution to development will be male, are also those with the strongest sex-differentiation in their general and vocational education systems, the lowest rates of economic female activity and a low level of such family support services as crèches, paid leave for domestic duties, etc. (Netherlands, Italy, Ireland). Similarly the developing or non-industrialised countries show a similar correlation. A national expectation of equality outside domestic life is correlated more highly with a relatively higher investment in girls' vocational education (Thailand, Argentina, Burma, Sri Lanka, Ghana) whereas the stronger the traditional separation of work and home roles, the lower the investment in and the more differentiated the planned education of girls (India, Pakistan, Ivory Coast, Botswana, Egypt).

Integration of general and vocational education

2.65 One desirable curricular and structural development is the closer integration of secondary (and post-secondary) vocational education into the main stream of educational provision. There is growing evidence of the mismatch between an over-academic or generalised education and the real needs of a changing labour market on the one hand; and between an overspecialised, skills based vocational education requiring premature specialisation, and the need for work adaptation and retraining later, on the other. Within this controversy, girls appear to be disadvantaged on the one hand by being channelled into general (rather than vocational) education thus diminishing their motivation for and training for work. On the other hand, within a prematurely specialised and sex-segregated system (e.g. requiring "vocational" choice before the age of about 16 years), the statistics show even greater underachievement by young women in progression to technical or to advanced further education and training.

2.66 A recent analysis by Unesco of the education systems of twenty-two (mainly developing or non-industrialised) countries has indeed suggested some cause and effect structural relationships of considerable importance. There appears to be a direct relationship between educational opportunity and the integration of general and of technical and vocational education (that is, the closer the integration, the wider the range of choices open to students both within the secondary years and in post-secondary progression). At each selection point (e.g. between primary and lower secondary, between lower and upper secondary, etc.) those in schools providing academic or general education with a technical or vocational bias, have had a wider choice of educational opportunities open to them, for progression to further education or training, than those who have been channelled on to specialised programmes, particularly if these are in separate institutions. But the reverse does not apply. Those completing programmes of technical or vocational education in schools or colleges specifically designed for these, appear to have more limited routes open to them on progression to third level studies or to the advanced, post-school sector. Given the very limited vocational avenues open to girls which this report illustrates, their routes are therefore doubly blocked. In a segregated system, the "minority" element is found to be not adequately transferable.

> "The technical subjects incorporated into the traditional academic examination structures rarely prepare for employment those who choose not to continue their studies since the emphasis is more often on theory than on practice. In contrast, while the graduates of institutions devoted exclusively to technical and vocational education might be adequately prepared for employment (although this is not always the case), the general education component of their programmes rarely qualifies them for the full range of choice for higher education." (78)

Similar evidence from Western Europe suggests that the later that subject specialisation can be deferred, the more likely both sexes are to make non-traditional choices and to move easily between training opportunities later. The limited studies available also suggest that the earlier a pupil is allowed to choose optional or elective subjects and discontinue others, the sharper the sex cleavage of qualifications at 16 or 18 years of age. The structural separation between general/academic and vocational/technical education is also seen in many countries by both employers and educators as too sharp and leading to a rejection of industrial and productive work by-the more intellectually gifted. This is worsened by the tendency to exclude the world of work from academic and general education and to underteach general communication skills, ideas and creative education in lower vocational courses.

2.67 There is some evidence from EEC countries, from the Nordic group and from Eastern Europe that a high degree of integration into comprehensive (polytechnic) schools of vocationally oriented but non-specialised courses, begins to break down sharper sex roles. It is also true that in those EEC countries (Denmark, U.K., F.R.Germany, France) which have deferred specialisation until the second cycle (post 16), the recruitment of girls both to non-traditional areas and to proportionately more vocational courses is higher than in those countries (Ireland, Netherlands) where decisions between general/academic and vocational courses must be made much younger and/or where vocational schools are single sex and strongly sex-typed (Italy, Belgium, Netherlands). In Denmark for example, with a coeducational non-vocational Folkeskole system up to 15 years of age, specialisation is deferred to the age of 16 when pupils then choose between academic gymnasier and technical or vocational courses. Girls are 57% of all technical school enrolments (62% of commercial pupils). They are only 5% of agricultural students (much the common pattern) - but 9% of nautical students (potential skippers). Under the old apprenticeship scheme, girls took only 20% of enrolments (but this is higher than in many other countries and these were mainly in commerce and hairdressing). Since a recent reorganisation of vocational education and training to defer specialisation till 17 years of age following a basic generalised introduction to one of seven general employment sectors (in a school based final year and a first training year), girls have increased their enrolment in the new EFG scheme to over 36% - of which a third is in non-traditional areas.

2.68 In summary, the potential structural reforms which are likely to benefit girls in the vocational sector, range from coeducation, through a more closely integrated system, to a common curriculum with a compulsory common core which would prepare both sexes for interchangeable future sex roles and for an open choice of future educational routes (from a common educational foundation). This does not mean uniformity across the full ability range, nor across differential interests or personalities. But it does mean uniformity for boys and girls in all that relates to the common core of knowledge, skills, attitudes and experiences without which no-one can survive in happy and fulfilled, efficient and adaptable adulthood. We are not of course necessarily talking of uniformity of detailed content to the last historical date or set book, the last scientific example, nor uniformity of teaching methodology; but that homecraft and parenthood, technology and manual skills, mathematics and some science, at least one creative art, and preferably one internationally useful foreign language where possible, and so on, must be an essential heart of a relevant compulsory core education of all girls and all boys - taught together - up to the school-leaving age.

2.69 The above illustrative examples lead to the conclusion that educational planning for equality should include the following as appropriate:

(1) a common core of lower secondary education from 11-15 years or 11-16 years as foundation for choice of later vocational education options. Such a core would include compulsorily for both sexes until the school-leaving age, at least: mathematics, science, education for family living, some experience of technical graphical and technical manual skills, foreign or international languages where possible, and a pre-vocational course oriented towards the world of work, technology and productivity;

(2) delay of the specialisation where possible until after completion of the foundation core course;

(3) gradual reorganisation of the secondary and post-secondary education leading to a closer integration of academic/general and vocational/technical education in comprehensive or polytechnic institutions (this closer integration will lessen the perception of the mutual exclusivity between academic/general and vocational/technical education, and enable the transfer across courses to be both easier and more frequent);

(4) inclusion where possible of some education for leadership and decision-making in all vocational courses.

III. EDUCATION, TRAINING AND WORK - STRATEGIES AND DEVELOPMENT

Planning

3.1 The first two sections have concentrated on establishing the principle - agreed theoretically and administratively by a wide range of international agencies and implicitly by many countries, that equal means the same but that formal equality has not been followed by actual equality. They have centred on the main input stage - structural planning and provision (and therefore implicitly, educational objectives) because that is where radical and immediate change needs to begin. It is also the main point at which educators have control - as distinct from other issues which stem from social or attitudinal origins. Inequality and discrimination are successive dimensions of social and educational planning. Inequality is generally an inherited state, environmental and passive, rarely accurately recognised by those who suffer it. Discrimination is active, by contrast and is clearly recognised by those who practice it as deliberate differentiation, whether or not this implies good or bad intent. Inequality is being born into a social class, a race, a region or rural area, a sex, which has traditionally been deprived of equal opportunity. Discrimination is the process by which the selective ideologies of past decision-makers have made a conscious difference in the opportunity offered to these unequal and under-achieving groups; a difference of usually lesser, more limited chances. There is no aspect in which these dimensions meet so closely as in the inter-relationship of planning and structure. Hence measures to eliminate discrimination and to counteract inequality must be firmly rooted in planning and structures. And hence this is where this paper has begun.

3.2 It will already be evident that in this field above all, generalisations are of limited value. They are useful to focus attention, to weed out main issues from secondary ones. But at the level of moving to action programmes and of specific strategies, there is no substitute for a fully diagnostic approach because each country is at a different point not only of development socially and economically, but in its understanding and knowledge of sex equality as a serious issue at all. International debate can strengthen concern. It can influence priorities among issues. It can hasten research and understanding. It cannot, however, prescribe individual remedies from outside without the deepest prior enquiry and research into all relevant aspects of a country's problems and needs. Such questions as for example whether Development Aid should in future be contingent on equalisation proposals within a project, are for national rather than international debate.

3.3 This section now attempts to cover some of those aspects which - unlike the education-based issues of previous sections - are in essence interdisciplinary, that is involving several sectors of decision-makers or dimensions of social and economic change. Discussion is set in the context of counteractive strategies against problems raised so far; or of foreseeable strategies development, where possible.

Adjusting education to the changing work ethic

3.4 There are several angles to the changing world of work to which adjustment within vocational education must be made in the 1980's, and this heightens the need for educators, the employment sector and the social services structure to work more closely across planning barriers. One is the change in the nature of work. A second is the change in the profile of the typical employee (more will be female despite the unemployment recession). A third is that retraining and re-education - or recurrent and continuing education ("post-experience" in some countries) will become an integral part of many sectors of the labour market. In the midst of these, the abolition of the sex cleavage in vocational education, in training and in work should be a timely move in integrated strategic planning.

3.5 To abolish the sex-differentiation in vocational - and even more so in technical - education, we need to convince educators and trainers that first, girls are actually capable of the same range of work activities as boys, depending on the same range of variations in physical, mental and practical abilities as exists in boys. (We have seen - Maccoby and Jacklin et al. - that differences within sexes are greater than between sexes). Second, we need to convince educators that it is as right for girls and women and the labour market to attempt to match supply and demand freely as for boys and men. That is, it is not for educators to fix artificial limits because they themselves do not perceive "suitable" employment outlets for girls. It is however a characteristic of the world of work in all cultures and societies, that all tasks, jobs and careers carry an attribution of male or female, whether traditionally inherited or newly acquired as new tasks and work processes are invented. What is imperfectly understood by educational planners and by trainers and teachers, is that these sex differences in work patterns are not constant or universal, but are variable both across countries and across cultures. When pressed to defend a sex-attribution or limitation in vocational education, in training or in employment, most employers or educators will also instinctively return either to their belief in innate physiological and psychological sex differences as a justification for saying that women cannot do a certain job; or to their view of the proper domestic duties of women as a justification for saying that women should not take up training investment and work full-time.

3.6 The structure of vocational education still reflects the structure of the labour market both in broad outline (in vocational education) and in detail (in vocational training). Should it? How far should existing educational programmes perpetuate existing practices and how far, attempt to contribute to the changing characteristics of work which will face us in the transition to the twenty-first century? In Westernised countries, the microprocessor, increasing demand for services, and unbalanced economies, present the main influence of change. In some developing countries, the transition from pre-industrial or subsistence agriculture to "modern" sector techniques is still not yet universal. Training and work structures must therefore differ between countries; but women's position does not appear to do so in the link between vocational educational preparation of girls and the participation of women in employed work. The labour market is sex segregated still in three ways:

(a) by type of work. The "men's work/women's work" antithesis appears to be universal;

(b) by level of work. Women are concentrated in lower-level work, under-represented at technician level and are a small minority at the top;

(c) by characteristics of work. More women work intermittently, or part-time, or in non-institutionalised work, rather than full-time, constantly and in organisations.

These existing patterns are widely used by educational planners and trainers to justify:

(i) sex segregation of vocational training to reflect (a) above;

(ii) lesser and lower investment in skilled and technical vocational education because they are seen to need it less as in (b) above;

(iii) discouragement of girls to enrol for vocational courses and to remain in general/academic education because the pattern in (c) above is perceived as general and unchanging, and suitable.

Hence the education service is reinforcing existing inequality and discriminatory practices (whether the latter are conscious or not) and not counteracting them.

3.7 One or two examples (e.g. domestic science, agriculture) were given earlier, of vocational training outlets perceived as actually mutually exclusive to the sexes, the first at the 100% level, the second in varying degree as between countries. There is a difficult curricular relationship between the traditional sex cleavage of the labour market which in all countries possesses ascribed characteristics of "men's work" and "women's work" on the one hand, and the sex cleavage of vocational and technical education and training on the other. Educators and trainers argue that they have to match the demands of the labour market and that it is "unrealistic" to educate girls for employment in which there are no "female" openings. The labour market then continues to designate their vacancies as male or female on the basis that the pattern of school leaver male and female qualifications and skills, justifies their claims that girls - or boys - are good at X and not competent to handle Y or Z. The stereotypes are unlikely to change unless actual evidence is produced in the shape of girls qualified and trained in schools in "male areas" - as in USSR and the Democratic Republic of Germany - of equal female capacity. Conversely boys will not be recruited for "female areas" unless - as in Denmark - they are encouraged to train for such areas as nursery teaching for which boys are now 11% of first year students. This paper therefore suggests that the first responsibility lies with policy-makers and educators to break the sex cleavage in vocational education and training. The problem of the newly qualified school leavers looking for non-traditional outlets is one for a strategic, integrated and wider initiative, and should in no circumstances be used as an alibi for deliberately depriving girls and women (or boys and men) of full and equal person choice of future activity according to their own aptitudes and interests.

3.8 As part of a special programme not only to encourage a further development of sex-partnership in work and home but to attract women to areas of skilled employment hitherto restricted to or dominated by men, a pilot project was launched by the Advisory Committee on Equality between Men and Women in Sweden in Kristianstad County to train women in technical work at the Saab factory. An essential part of the project was the evaluation of the effect of both women's move into "male" fields, and the return of family women to work, on their husbands and families. The project report establishes clearly women's equal capacity to handle a wide range of tasks and jobs for which women were formerly considered "unsuitable". As important, was the finding that the families on the whole could not be seen to suffer from the mother's absence at training and work. For the majority of families surveyed, the positive benefits were, on the contrary, that:

- the children grew more independent;
- the children helped more in the home;
- the children saw more of their fathers;
- the children benefitted materially from the family's improved economic position with the mother's earnings.

Among the aspects which the survey team considered needed further investigation and experiment, were the lesser adaptation of husbands than of children to the new family structure. A significant number of the men expressed reservations where the wife's skilled work, earnings or increased confidence appeared to affect the husband's personal feeling of security; they feared "competition" or the possibility of no longer being the leader or principal breadwinner. Most younger couples however appeared to adapt reasonably well. The importance of personal counselling and the availability of locally available skilled social work advisers to whom women could talk, was highlighted.

3.9 This is now being followed by a project started in 1977 at Köping to encourage women to progress from non-qualified "male and blue collar" jobs where they had been recruited, to skilled levels at the same rate as men. The project involves changing the attitude on sex roles at the Köping Volvo factory, providing extra further education and training for the women (including a year's basic education with full pay) and - as at Kristianstad, evaluating the results. Sweden carries this through into the schools, where a National Sex Roles Project is providing new materials, ideas and methods to cause teachers and pupils to understand sexism and sex-roles and to develop more flexible attitudes. Sweden has recognised that even these steps alone have not resulted in swift change - choices by girls and boys in the upper secondary vocational and technical fields are still often traditional at the optional stage. One proposal under consideration is to drop domestic education for both sexes to the primary (8-11) years. The three positive aspects in a comparative education sense, are

(a) Swedish girls have a better foundation for retraining when they are later persuaded to make a non-traditional choice because of the breadth of their common core up to mid-adolescence;

(b) more Swedish girls make non-traditional choices than in most other West European countries;

(c) overall female enrolments in vocational and technical education is relatively higher in Sweden than in most West European countries.

3.10 The deliberate strategic persuasion of girls now to enter "male" areas is however regarded as directly controversial in times of recession (despite "formal equality") by some. The issue needs to be seen in the context of the current wider debate on the mismatch between the educator's design of overacademic education or overprescribed vocational premature specialisation on the one hand, and employment demands or outlets on the other.

3.11 The mismatch is compounded by the widespread rejection of the "blue-collar" field of employment as socially less respectable, carrying less status, by those intellectually able enough to follow an academic curriculum in general, and by girls and their parents in particular. This is an economic as well as a social problem not only in industrialised countries who are short of technologists and skilled technicians, but elsewhere. The Malaysian report on Combining Education and Work (79) spells out the mismatch for example most sharply. On the one hand, it is suggested that "over-education" in pre-university terms results in higher unemployment rates for those diplomates who are "unresponsive to available employment opportunities". On the other, a manpower survey indicates an acute shortage of skilled workers and an underprovision of relevant output from vocational schools. And in the Philippines, with an unusually high Asian literacy rate of 83% and a well-developed school system, unemployment in its 46 million population is high and for most educated school leavers, employment is a matter of emigration. The Department of Education "was then left with the problem of redirecting the educational system to turn out employable grades", (80) as distinct from using schools as "mills for diplomas". The vocational future of girls and women is here again more seriously affected by this mismatch given their under-recruitment to such vocational preparation as does exist, and their higher enrolment in arts and general education.

3.12 Cameroun has taken structural steps to attempt to redress this mismatch. (81) "In the past many people looked down on vocational courses because they felt that secondary school education conferred more prestige. Today, manual work is compulsory at all levels of education so as to dispel wrong attitudes." The move in Cameroun to establish decentralised campuses for upper secondary and higher courses in accountancy, animal husbandry, languages, industrial chemistry, etc. will go some way to strengthen this "polytechnic" approach, but the current Five-Year Plan is still only able to foresee 89,143 job opportunities for nearly two million young people, and there is still concern that girls are unlikely to receive their fair share of such training and employment as is available. The latest Indian report on technical education is also based on a clear expectation that "the courses offered at (vocational and technical) institutions will in future relate to the various demands of the neighbourhood in particular and the community in general ... of relevance to the various problems that are posed by the society". (82) How far this both materialises, and also actually improves or widens girls' opportunities will depend however on a wider and more integrated approach to restructuring the match between vocational/technical and academic/general education on the one hand, the match between educational preparation and the needs of the labour market on the other, and the elimination of sex differentiation and sex segregation in vocational and technical programmes in both. One such possibility arises directly out of the swift advance in microprocessing and could be particularly advantageous to girls.

Reorienting skills education

3.13 Research involving school leavers has produced a frequent feedback from girls interviewed that they are presented with teaching, nursing or secretarial studies as their three main outlets. (It tends to be which, rather than whether). A further helpful development which would involve both teachers and guidance staff would be the restructuring and re-orienting of certain skills to a new and wider work context. Typing is for example a skill with limited transfer value if taught in the sole context of secretarial studies - and becomes a female-labelled area (except in India). The onset of microelectronic developments, word-processors, new computerised information retrieval systems will create a wider need for keyboard skills of a varying kind but a common technique and will reduce the demand for clerks and typists as such. The updating of careers and guidance staff and of teachers in the whole area of microelectronics, computing and new keyboard skills is proving a difficult (and expensive) task in Western Europe but an acceleration of this will

(i) improve the match between vocational education and labour market needs,

(ii) remove the sex-typed label from typing skills,

(iii) facilitate the integration of the keyboard skills area with technical education in computing and electronics. The concurrent deferment of specialisation and the creation of a basic generic course followed by later specialisation, would widen choice for girls and boys alike.

Continuing and recurrent education

3.14 The planning perception of continuing education as a dispensible part of the educational structure, secure and desirable in economic expansion but the first area to be cut as less essential in recession, is both short-sighted (if understandable), and especially disadvantageous to women. The very nature of their traditional life pattern - work, family work and possible return to employment (and an inadequate foundation education often in the first place) makes women's need for second-chance education the more crucial. But the structure, philosophy and financial infra-structures for continuing, adult or recurrent education are weaker than those of the formal school-based system in all countries for which evidence is available. Education is perceived by governmental planners as a basic right in childhood, as highly desirable in young adulthood (e.g. between the age of 16 and about 21 years) but as a dispensable luxury for a privileged few thereafter. The structure of post-school education is not framed to encourage re-entry for vocational education or training of a substantial nature; financial aid is for example rarely available to women returners in adequate measure. The timing of such courses as are available, assumes full student mobility without family ties, and courses assume female car-ownership or car-mobility (in Europe and North America) or even more unlikely general mobility in rural areas in Asia and Africa. Indeed a classic example of the lack of integrated social planning is the problem of transport - a means for people actually to get to school, college, training centre, work. Reference has been earlier made to its especially central relevance to equality of access in rural areas but it is equally an inner city and urban problem. A study of women's public transport needs in America found that women in the workforce tended to have to rely on public transport for journeysto work more than men (who tended to have the family car); some suburban employment sites were inaccessible to public transport and planners had presumed a car-mobile workforce; and that certain industries and occupations tended to be more inaccessible than others. Women tend therefore to have to work nearer home partly because they are perceived to carry the full weight of domestic responsibility and the "dual role", and partly because of their lack of independent transport (which we have seen is especially acute in rural and developing countries). (83) Part of any overall strategy for extending the actual range of education, training and employment opportunities for women must include proposals for explicitly relating the public transport infrastructure to the siting of schools, colleges, adult centres and main employment outlets.

3.15 Given means of mobility however, much work still needs to be completed by planners before the needs of women for adult and continuing education and re-entry training are fully understood (and therefore met). They can be briefly summarised as:

(1) confidence-raising, personal education and training for current work patterns after a domestic break;

(2) specific extra education in subject areas missed or imperfectly learned at school and needed for choice of employment (mathematics, physics, graphic skills, technical skills, manual dexterity, or general education);

(3) updating of previously held vocational knowledge and skills;

(4) opening up of new areas of higher-level education or skills;

(5) general knowledge about changes in the industrial, technological and commercial world of work during the absence for family work.

Evidence from a number of countries suggests however that the politically supported male priority in resource-allocation makes it the most difficult for courses designed, structured and tailored to mature women returners to command any security of educational resources at all, or permanent staff, and realistic grant-aid, against an over-demand for traditional vocational education. The location of these courses in the "adult education" sector also weakens their position as a protected right of continued provision. Any integrated plan for women's educational advancement will need to examin carefully, the resource-allocation procedures for post-school (non-higher) education and to build in more secure and planned entitlements for adults needing re-education and retraining.

3.16 Similarly, as in vocational training, the mismatch with the work ethic can be seen in relation to its structure. Work is seen as normal, valued, secure, if it is full-time, constant, paid, organised and institutionalised (the typical male profile of work). Work which is mainly part-time, an intermittent work pattern, unpaid work, peripatetic work is seen as a female profile, and all attributes tend to carry a minus factor (that is, less normal, undervalued, less secure, etc.). Women's changing patterns of work on the one hand, and the concurrent likelihood that the pace of change will be slow and that the "work ethic" of most women will carry the current profile for some years to come, makes it necessary to look at strategies to improve existing patterns as well as to introduce new ones.

Changing labour market structures and changing work ethics

3.17 Thus the time can rarely if ever have been so appropriate for a serious social and fiscal debate about elevating part-time work to a more secure and tenured status, for both sexes, carrying (proportionate) pensions and other fiscal rights, in the structure of the labour market. Swedish policy is towards a reduction of the working day from 8 hours to 6 for parents with young children. High unemployment in Western Europe has led to discussions of job-sharing and work-sharing. The impact of new technology on clerical, secretarial and distributive trades work will lead to a contraction of these sectors of the labour market which traditionally absorb a majority of girl school leavers, and therefore disproportionately diminishing their employment outlets. This is seen to be as serious a problem in Australia as in Western Europe. (84) A report of the Netherlands Government Council for Scientific Policy discusses a serious and structured possible deliberate expansion of the "quaternary" sector of work (non-commercial services sector) as a socially and economically more viable alternative to heavier investment in social security which, by paying for unemployment, produces no return for investment. (85) Expansion of the quaternary sector at least produces an infrastructure which in turn frees skilled labour for work where needed (by expanding services) and which creates greater family and social stability - in contrast to higher unemployment which creates greater social and personal maladjustment. These and other trends which are now well documented (increasing use of robots in such work areas as car manufacture; changes of accounting procedures by increased use of computing and credit card systems) are having a cumulative effect of reducing demand for semi-skillec labour and increasing demand for fewer but more highly trained technicians (in business sectors as in industrial work). This creates a need for constant review of the match/mismatch of educational structures to labour market needs and structures.

3.18 To solve this problem of mismatch, the following steps may prove useful for planning and implementation of appropriate actions:

(1) setting up of interdisciplinary machinery at national and regional levels within countries to monitor the implications for the structure and content of general and vocational education of changes in the work ethic;

(2) consultations between Ministries responsible for education, training, financial aid systems of national insurance and social security and for employment to construct immediately a medium-term integrated plan for harmonising educational and employment policies to ensure to both sexes

  (i) equal right to technical and vocational education and training, to work part-time, full-time or by job-sharing with equal rights to financial infrastructures;

  (ii) equal right to work-alternation and to supports as the principal home-parents;

  (iii) equal right to financial aid and paid leave for further education, training;

(3) consultations with employers to work towards a more flexible relationship between their needs and interests, those of the countries and the programmes of technical and vocational education and training, and towards a more flexible alternative work and labour market structure than the current sharp antithesis of employment and unemployment, of paid and unpaid work and of constant and intermittent work.

3.19 The perpetuation of the current work ethic unchanged, owes much to the parallel antithesis between what (male) economists and politicians have defined as "productive" and "non-productive" work. In this context, is not meant the paid employment as against "wages for housework" controversy, but the unaccountable assertions that the (mainly female) tertiary or services sector of employment is "non-productive". Thus a higher perceived value and a higher training investment is given to (male-dominated) industrial work which is seen to produce immediate and direct economically accountable balance sheets. The (female-dominated) services sector - basically supportsservices of all kinds - is often counted as non-economically productive and hence carries lower wages and salaries and generally a lower training investment. The typical ranges of services sector jobs, carry generally lower gradings on job evaluation charts than equivalent tasks and skills in the industrial or "modern" sector. But the (male) labour force in the industrial sector would not be free to work long hours or shift work to fulfil jobs which imply staff mobility (transportation, commercial sales, managerial posts, communications networks) without the network of support which the (mainly female) services sector now provides (which formerly kinship groups, extended families or local small communities provided within themselves or which had to be absorbed in multipurpose job specifications, before the onset of high specialisation in the 1960's and 1970's).

3.20 It may be that the growth of both women's actual desire to and their real participation in work has been sufficiently smoothly integrated as to be imperceptible to planners, trainers and educators, although this seems unlikely. The persistence however of at least three beliefs which are used to justify failure to encourage girls to qualify, priority for boys in training, and discouragement to women to broaden or advance their employment, makes it necessary again to refute the current mythology, as a basis for full understanding. The three beliefs are

(a) that marriage is a terminal occupation for women and therefore that girls will not need to earn a living for long;

(b) that women only work for a second, dispensable income and do not need job satisfaction or promotion; and

(c) that work and motherhood are incompatible.

All three can be used to perpetuate the vocational concentration of girls and women into preparation for a work structure that is part-time and/or intermittent rather than constant, and so on. Only if we assume that girls will work for all of most of their lives (many full-time) and at all levels, with the full vocational corollaries follow. The current work ethic however, also describes an antithesis which society sees between male "norm" of full-time, constant and mainly institutionalised work (in industrial economies) or organised full-time extra-institutionalised work (in agrarian economies) and the female "norm" of intermittent, often part-time work with lower perceived value and security. Vocational education and training is usually seen as related exclusively to this paid employment. It is now suggested that vocational education and training, careers education (guidance, counselling, personal training) for girls (and boys) should also include as an alternative choice open to them, the "unpaid work-career" which is external to the family and home. This is especially relevant to societies who cannot hope to absorb all school leavers into salaried or waged employment of the traditional kind; or to those now facing unprecedented youth unemployment.

Vocational preparation for unpaid work outside the home

3.21 There can be few if any countries who would not benefit from increased professionalisation of the unpaid voluntary work sector by vocational training schemes to develop work skills of co-ordination, management of volunteer staff, budgeting, administration, committee work, etc. In poorer societies in particular, the return for investment would be doubled in that improved services would benefit the local community as a whole, and the women who at present underpin the voluntary services would receive experience and training which would help their advancement in either political or economic spheres in due course. Figueroa comments that in Latin America, voluntary (community or civic) work by women carries a high status and respectability. It is dominated by women in the urban middle and upper income brackets. This kind of work is not however accorded its true economic or training value (i.e. a credit value for later work or study). In rural areas and in lower income groups, she suggests that the co-operative movements play a stronger role and could be used as a springboard for development. Unpaid work falls into three broad categorics. The first is the much discussed domestic work on which a public debate has arisen in many countries in the context of "wages for housework". That is not discussed here, other than to point to the danger that such a policy would merely reinforce women's enclosure in a home role and divert resources from expansion of child care and other support measures for working mothers. Moreover these, and single women, could legitimately claim equal allowances since they do no less housework but merely extend their 8-hour day to 12 to cover domestic work. The second category is voluntary work in the local community of an organised kind (organising voluntary welfare services, helping the handicapped, running the Parish Council, providing social and recreational activities). The third consists of major organised work at county or borough, regional or national level (local government, parliamentary work, Justice of Peace, magistrate, helping with voluntary hospital services, organising private hospital car transport to supplement state provision, providing services for the elderly, voluntary social work). A chart of this pattern of activity (which is mainly female) illustrates this, is included in Annex C illustrating its relative transfer value.

3.22 The point at issue is the omission of this known pattern from vocational education, and its omission from careers education and guidance programmes. There are few if any societies which could survive without the unpaid Red Cross, voluntary services, charitable organisations, community workers, and the supplementary welfare provision which fills the gaps the State cannot provide (or which can provide a service in a more flexible and acceptable way responsive to local or special needs). The hidden subsidy of this - mainly female - quasi-professional work, of which the major non-governmental organisations are a significant element, to the economy of most societies, is substantial. It is argued that the range of unpaid work which takes place outside the home should be seriously studied and evaluate by employment experts and (a) provided with progressive vocational training with a credit rating for future employment and (b) evaluated in order to qualify workers for allowances and expenses which would open the work to a wider range of women and increase their mobility. (It is noted that the main range of unpaid work which carries such allowances now is the male-dominated political sphere of central and local government). A similar revaluation of support jobs in the services sector is an important aspect of improving the advancement of women. It is recommended that the same techniques of work study, analysis and evaluation be applied to this field of unpaid women's work, as has recently been devoted to the restructuring of employment sectors in recession or under change and development (textiles, steel, computers, microprocessing).

3.23 To develop vocational programmes for education and training of workers in both voluntary services and community work outside the home, steps may be taken:

(a) to extend to the unpaid work sector (external to home duties), schemes of both non-formal and formal vocational education and training in such skills as budgeting, report and minute writing, chairing committees, public speaking, co-ordination of helpers or transport and monitoring and self evaluation. The training and the skills could be evaluated by professional staff and equated in job-evaluation terms to labour market skills. This would ensure appropriate credit rating for women who return to either training or employment after a period at home combined with external unpaid work of this kind;

(b) to extend to a wider range of unpaid work in the light of professional evaluation, allowances for car mileage, public transport travel, costs of participation on the lines of allowances granted to magistrates, local government councillors and industrial tribunal members (not a wage: an expense allowance). This would open up more possibilities for women to participate, who currently have no personal income and who cannot, or are reluctant to, ask husbands for money for outside non-remunerated activity;

(c) to present the progressive value of social, community and political activity to all adolescents but particularly to girls, as part of the career options open to them even if (at that stage) they seek dependance on marriage and do not foresee continued economic activity;

(d) to set up studies by Ministries of Labour to extend job evaluation techniques to revalue the skills and levels of tasks in both the unpaid and the paid services sectors to award parity with equivalent tasks in the industrial or "modern" sector.

3.24 It will no doubt be argued that the resources do not exist to write the cheque even for the recommendations listed so far. This is a questionable social alibi and one which needs to be set in the context of the current rationale of resource-allocation. Only to limited extent are support services (secretarial, information services, transport) yet counted in the overall budget. To compute the full economic contribution to the national budget of the unpaid sector of women's work, the services sector and of the full range of domestic support on which the male labour market is implicitly built, would alter political concepts of the return for investment which women represent.

Teachers and Guidance Counsellors

3.25 The key personnel who hold the possibility for adjusting the educational structures, content, motivation and output to changing vocational needs and changing female demands are teachers, counsellors and parents. The effect of the problems and issues discussed in this report on careers education, vocational guidance and teacher training have been implicitly understood rather than explicitly spelled out. It is particularly in the context of information dispersal and improved diagnosis by research and monitoring that teacher training will be improved in relation to the elimination of sexism in the school and training environment. The need is twofold - firstly to encourage the national production of new modules of initial teacher training which increase understanding of the processes and of sex-role stereotyping and which develop methodologies of counteracting them. Secondly, programmes of in-service re-education and retraining are an essential prerequisite to changing the attitudes of teachers and counsellors towards the expected roles and therefore the curricular and career choices of girls and boys.

3.26 In-service education of existing personnel remains a key element however, and ideally should be planned on an interdisciplinary basis with in-service re-education of teachers. Teachers come next to parents in their potential influence on young people both directly and as role models. Indeed in those less well-resourced countries without specialist guidance systems, the teaching force is the main pool of potential influence, with parents as with pupils. The sponsorship of World Regional professional seminars for the exchange of mutual expertise is strongly recommended, of which one additional purpose would be the identification of a wider pool of experts as a source of innovative programmes and guidance resource-materials. The lack of trainers to train the trainers is a familiar circle which in this under-researched and under-resourced field, makes international collaboration especially valuable.

3.27 The first difficulty is indeed, who is to train the trainers? Each country may need to collect its available expertise and develop a pool of *interdisciplinary* trainers if programmes are to be pursued. International collaboration is desirable in national (as distinct from local) programmes in view of the newness of this subject area. Ministries and education authorities and Boards may need to commission a range of experimental materials. Some of the main innovative programmes have so far come from Canada and the U.S.A. and involve the production of Counsellors' source books containing material collected to update counsellors in the varied roles that women now play and to counteract some of the unfounded assertions on which guidance staff and employers may base their presentation of options perceived "suitable" to girls. These form part of "affirmative action programmes", the rationale of which is to present the non-traditional option in its most attractive light having removed all practical barriers (legal, financial, access, etc.). North America appears to share with Europe however, not only a lack of enough of *trained* personnel but a lack of consensus on what training is most appropriate (pedagogic, psychological, social work, social science, industrial?). Secondly, the sexist material in media (TV) advertising and careers literature and advertisements for posts, representing occupation as for one sex or another and trivialising female fields, is a discouragement to guidance staff to reverse the roles and present alternatives. A framework of formal equality can be a positive help in attitude-changing in this context. In the United Kingdom the inclusion of careers education and advertising with employment in the Sex Discrimination Act of 1975, has led to the first real progress in eliminating sex-typing in careers literature and in job advertisements because discrimination in job advertisements is now unlawful. Careers Officers have also taken the lead in presenting a wide range of jobs and sectors as now open to girls as a result of the "neutralisation" of both pictures and texts.

3.28 As a footnote on teachers, the relationship between the need for co-education in vocational training and female achievement in educational employment is ambivalent in relation to the teaching force. On the one hand, the comment by *India* that the "separation of the sexes in educational facilities is largely responsible for the high number of women academics of all ranks in India today, just as the feminine modesty and sex segregation have encouraged the training of large numbers of women doctors", is especially valid for countries like Ireland, Italy and parts of Latin America. But it is also characteristic of the United Kingdom, Germany and France that the spread of coeducation has been accompanied by a steady decline in the proportion of women head teachers, directors of teacher training and heads of department. While in principle coeducation is an educationally and socially essential development in the achievement of equality in the curriculum, its corollary appears to be the almost loss of women from leadership posts. Research is needed into the factors that prevent women from achieving or maintaining leadership posts in a coeducational establishment, and into ways of redressing the balance in the teaching force to encourage more men in schools for young children and more women in technical and scientific education as well as more women in leadership.

3.29 By the time that a girl reaches the age when guidance services are available, several if not most of the barriers touched on so far will have already conditioned her choices. Her primary school will have encouraged her to sew while her brother plays with tools and wood. She will have developed her verbal skills but almost certainly fallen behind in mathematics. In place of the remedial help she needs, she will have been encouraged to "choose" more arts subjects or home economics because she is less good at mathematics. She will have been told that the technical craft classes are full because more boys wanted them than there are places. The media and girls' magazines, her textbooks and her library books will mostly have shown her women as mothers and wives but not as workers, and girls in dependent and helpless or feminine roles: rarely in charge, in danger, showing a boy how to make something or getting healthily dirty with a motorcycle or climbing a tree. The material on which a counsellor will work is already conditioned to the femininess of girls and of the female world. And finally, in almost every guidance system, counselling is introduced too late, that is after key decisions (often of premature specialisation) have been made, courses or schools selected, subjects dropped. It would, and does, take a gifted and knowledgeable teacher/counsellor to counteract this. Most are understandably average, and may be equally conditioned. The first urgent need therefore is for in-service training programmes of existing guidance staff to teach them:

(a) the real evidence of (minimal) sex differences,

(b) advances in opening up the labour market to women,

(c) the facts on women's work in employment and home,

(d) new techniques in non-sexist counselling ("Being an engineer need not interfere with your married life" rather than "won't your husband resent your being an engineer?").

3.30 The guidance function is seen to have a very different purpose in different countries. In some (Federal Republic of Germany, Italy) guidance is seen as vocational advice towards employment and is based in the labour-market agencies with employment-oriented training for guidance personnel. In others it is more firmly school-based - "orientation scolaire" (France, Belgium) and the training of personnel derives more from pedagogy and psychology. In others (Indonesia) guidance aims to improve the quality of family life as well as to lead a vocational skill and to improve women's role in the community. Czechoslovakia aims to match young people's skills to the needs of the national economy as well as matching young people's aptitudes to the vocational outlets available. The United Kingdom has developed a wider concept of "careers education" which incorporates advice on curricular choices from trained careers teachers in schools, advice from trained Careers Officers based in the Local Education Authority but professionally trained by the Department of Employment, and area careers advisers who are experts in the matching of recruitment qualifications to changing employment opportunities. The fusion of these into a careers education programme includes, at its best, personal education in life skills - personal relationships, industrial relations, home, work and marriage.

3.31 It is desirable for guidance services to involve parents and/or husbands and families where possible, especially if non-traditional avenues are being explored. Involving parents in change is never easy; the parents who would most benefit are rarely the ones who attend school or area functions. Schools and guidance services may develop links with other agencies in touch with families (Health Centres, Voluntary Community Organisations) to discuss collaborative projects in adult education and community education which would contribute to parents' understanding of the changing adult world of home and work in which their children will live - in the twenty-first century. Use of the media, especially television and the advertising magazine media, has proved very effective in other programmes of public re-education, and is becoming an increasingly influential factor in the development of young people's attitudes. The dilemma which faces parents, teachers and guidance staff alike is for what they believe they are guiding girls? Until future adjustments to both the work ethic structure and the dual work/home sex roles become more widespread, they feel a personal responsibility for making sure a girl is "suitable" to withstand the pressures of a non-traditional role. Should they (as they see it) risk her later unemployment in a discriminatory labour market once she has qualified, or do they advise her to seek a "safe" route in a time of high unemployment? These are difficult decisions.

3.32 The presence of anti-discrimination legislation in Western Europe has caused a professional debate on the content of tests and guides used in vocational guidance and which have traditionally been based on separate sex-norms and assumed sex-differentiated interests. The principal vocational interests guide used in the United Kingdom (the APU guide) was withdrawn after the Sex Discrimination Act on these grounds, and a government grant awarded to the research authors to devise a bias-free test. This is nearing completion, is based on a unisex norm (after 3 years research and revision) and will open up to a young woman or man who is put through the battery of choices and options involved in the occupational psychology test, over one hundred different openings and types of activity. It is hoped that this example will be followed by revisions of other guides based on different sex norms.

3.33 A characteristic of almost all guidance systems is that they concentrate resources on school leavers to the exclusion of older women wanting to return to work, or of young women whose first employment opportunity (or marriage) has caused them to want to revise the work decision they made in mid-adolescence. The steady development of a recurrent or continuation education system as an integral and planned part of the through-route from primary school to maturity, is becoming recognised as an essential element in educational planning and employment policies. Imperfectly planned however are opportunities for women to receive counselling and guidance not only as to openings available for further education and training, but of the acquisition of "bridging education and skills" needed to rebuild confidence and personal skills after a period of home-oriented withdrawal. The U.S.A., France, United Kingdom and Scandinavia have developed a range of experimental programmes the essence of which is confidence-raising educational group work in a women's centre or a college environment, leading to more formal topping up of basic educational deficiencies. Resources for these are however very limited, and recruitment is still predominantly from the middle class or reasonably educated women.

3.34 Girls and boys should also both be encouraged to question women's perceived exclusive right to dependence once their children are past school age, unless a parallel right is extended alternatively to boys and men. Once child rearing is past the intensive stage, the remaining 20 to 30 years carry a responsibility for some contribution to the wider community outside the home - in addition to maintaining the quality of family life - whether that is in paid employment or not, and guidance programmes could profitably discuss this in the context of the local culture.

3.35 Some issues to be considered when developing guidance policy and programme:

(1) It may prove efficient that careers guidance, vocational guidance and counselling should be introduced as early as possible and no later than two years before the first point at which girls and boys have to choose between subjects, courses or vocational or technical schools.

(2) The guidance process should offer the full range of adult choices to both sexes, that is the expectation of economic activity, home-making, full or part-time work, and expectation to play some part in decision-making, politics, or community life.

(3) Guidance and counselling systems should be planned and staffed to cover continuing programmes for women over the school-leaving age and in particular for those wishing to return to work after a break in employment.

Curriculum reform

3.36 The scale of curriculum reform which the 1980's might expect to see in the wake of the changes suggested in this report is implicitly rather than explicitly stated. Almost all countries who have examined their educational practices with a desire for sex equality, have recognised that the text-books, media, materials and teaching techniques, reflect the current social stereotypes about sex-roles and about social expectations. The task of renewal and reorientation may seem daunting. But past experience has shown that once a new objective has been accepted by the public will as well as by Government, change can arrive securely in one generation. It is held that Governments have an inescapable duty to lead that public will, as a mark of their own determination to achieve sex equality. A first step, could be the establishment of some form of National Board or Commission to review teaching materials and methods and to disseminate good practice as part of teacher education and re-education. (In Denmark for example, the Council for Equality has produced a pamphlet on "changing roles in the family" which will be sent out to all schools to be used in teaching programmes to help to change children's attitudes to traditional sex roles). The Standing Conference of European Ministers of Education saw this as an important development area (in June 1979) and suggested that the development of educational equality between the sexes should be monitored by national or governmental bodies, whose role could include advising on policy and legislation, collecting and dispensing information, monitoring attitudes purveyed in publicity material for educational opportunities, scrutinising teaching materials and investigating cases of discrimination. Collaboration between educational planners and such national bodies may usefully become an essential characteristic for progress.

Information, Data, Research

3.37 Although the 1970's have seen some degree of acceleration of research and enquiry into the problems of sex inequality, we start a new decade still with inadequate knowledge on the one hand and imperfect communication of what we do know on the other. This is at several levels. Firstly, such new research as is now available on aspects like the psychology of sex differences, pupil motivation, parental attitudes, tends to circulate round a limited circle of academics and feminists but cannot be seen to reach educational planners, heads of institutions, teaching and guidance staffs, or employers and trainers. In particular, the content of teacher training programmes in many countries shows little sign of any impact from this new evidence and new thinking. Secondly, Ministries have been slow to release funds for major research in this area because it is seen as a low priority and the need not fully recognised. Thirdly, such university or other research "cells" as have developed an interest, have tended to concentrate on aspects relating to individual institutions and groups of students, in the absence of nationally constructed research objectives with relevant levels of funding. The approval of a major interdisciplinary research enquiry into the curricular differences which contribute to unequal employment opportunities for girls by the Irish Employment Equality Agency in 1979 is therefore warmly to be welcomed, and its results will be awaited with interest. Fourthly, despite unprecedented developments in information retrieval techniques and in library and archival methods in the last 20 years, access to information is as difficult practically speaking for field practitioners as it was three decades ago. We have not yet solved the problem of dispersing what we know to those who need the knowledge.

3.38 But there is still an almost total general absence of specifically educational or policy-oriented research in the whole field of educational equality between the sexes and especially of the nature and characteristics of the influence of perpetuating different sex roles on curricular and motivational choice of girls and boys. This is a serious handicap to the proper and effective study of this whole problem. Such evidence as can be gathered and used is to be found mainly in anthropological studies, in general surveys of educational reforms or of pupil achievement, and in the growing documentation of Commissions and Councils for Equality or for the Status of Women.

3.39 Ideally research should be applied and action-oriented and preferably integrated with general aid projects and women's projects - evaluation, information retrieval and collation and monitoring need to be built in to all development activities as a normal dimension for constant measuring of social needs and social change. Indeed the European Ministers of Education resolved at their Conference in June 1979 that "The results of research should set out scientifically established data which will provide a sound basis for analysis of national and international practice and the development of appropriate new teaching methods and other measures. A first step, to which the Ministers of the Standing Conference subscribe, would be to ensure the division of relevant national educational statistics by sex to allow for thorough analysis of the current position of women", - because it was evident that too little information was available on a comparative basis for as decisive a discussion as was desirable.

3.40 National and international educational and statistical services and organisations should develop their co-operation further to ensure that their annual or biennial publications on education and training statistics provide:

(i) global and fully sex-divided data so as to enable constant monitoring of sex differences in enrolment, achievement, repetition and dropout as between sectors, levels, types of institutions and subject areas;

(ii) results of investigation of the effects on the motivation and choices of girls and boys respectively on learning in single sex and in mixed institutions; of investigation of the effects of the structure of the school organisation and the current classroom practice on the acquisition of separate sex roles by girls and boys in the primary years, including the "hidden curriculum" of the results of investigation of the effects of the "critical filter" on vocational choices of girls and boys respectively; of the investigation of sex in balance in the teaching profession and the training services.

These comprehensive informations are necessary to enable an in-depth diagnostic to identify weaknesses, lacunas and mismatches, and to elaborate appropriate preventive and remedial programmes.

3.41 Strategic planning for an integrated programme of increased investment in girls and women will be most effective if by use of the media, consultation with the leadership of industry, education and different sectors of the community, a steady challenge to the rationale behind the assumption of male priority in rationing is constantly, if diplomatically asserted. The standards and principles agreed by the major international organisations and by many Member States have been quoted at length in this paper, as examples against which to challenge the political, economic and social justification for any continuing unequal investment in girls and women. Whatever limited resources are available must

(a) be at least shared equally,

(b) take account of the backlog of additional need for affirmative action programmes for women to make up for past deprivation,

(c) take account of other risk groups (e.g. rural areas).

3.42 It has been said that planning and structure are not only causally related, but illustrate the fusion of the concepts of inequality and of discrimination. The problem of rural areas which are highlighted by the literacy/dropout and the agricultural problems may seem to be geographical and economic barriers. It has not been feasible, it is argued, - not "viable" - to provide the same level of services in a sparse and far-flung rural area as in a conveniently dense and well-populated town. This is however (whether intentional or unconscious) a process not of unavoidable inequality but of implicit discriminatory planning. Rural populations are implicitly perceived to need a lesser service, to deserve it less, and to be less likely to produce the skills and talents needed to develop their societies, than their urban counterparts. Otherwise they would have been awarded the relatively extra resources per head of population needed to ensure that they achieved the same level of advancement and skill as their urban peers as a first basic charge on national exchequers before money is allocated for further advanced benefits. It is suggested that the secure future of each country rests as much on its rural as on its urban citizens and that a priority in this decade, can justifiably be a levelling off of rural - and therefore of female- educational opportunity. Thus, despite the slow progress so far, in translating formal to actual equality, an improved legislative framework may be considered for those countries who lack equality legislation as a spur to debate and action rather than a tool.

IV. STRATEGIC DEBATE

A legislative framework for equality

4.1 While it is true that actual equality has not necessarily followed the declaration of "formal equality" in those countries that have attempted to define the latter, it would be fallacious and wrong to argue that a legislative framework is therefore not needed or not helpful. It remains an important first step along a long road. Distinction should be drawn between a political statement of intent and between legal, "formal equality" An Act of Parliament (a) confers rights on individual women (or men) for specific entitlements which are enforceable in law, and (b) establishes penalties for institutions, employers or agencies who deny these rights. There is also a functional difference between the formal equality of a politically-set statement of intent or of consensus agreement which has no binding legality in detail (like the United Nations 1967 Declaration against discrimination, or the 1979 European Ministers' Statement quoted in Section I) on the one hand, and the passing of a legally binding Act of Parliament or a Directive of the Commission of the European Communities which is binding on member states on the other. The former reflects a political consensus of leading opinion at the level of planning and sets a desired standard; the latter incorporates a right, the non award of which can be challenged in law and remedied in individual cases. It is important that where legislative backing is given to a country's definition of equality, this includes the education and training services and is not limited to the employment and social security sectors. Later equality becomes almost unattainable if the formative years deny girls full, equal and the same educational opportunities as boys, and therefore deny equal and the same range of knowledge, skills and qualifications for advancement.

4.2 While it would be tempting to present the 1980's as a decade of breakthrough in women's actual educational opportunities, what we have rather seen is an encouraging step forward in defining in formal legislative terms, the concepts of equality, of discrimination and of sexism to which serious research and enquiry by academic institutions, by Commissions and Councils for Equality and by some national governments, have now given a respectability and a definition which was lacking in the 1960's. In 1975, International Women's Year, for example, Title IX of the U.S.A's 1972 Education Act became effective, providing that:

> "No person shall, on the basis of sex, be excluded from participatior in, be denied the benefits of or be subjected to discrimination under any education program or activity receiving federal financial assistance."

In the same year, 1975, the Sex Discrimination Act of the United Kingdom received the Royal Assent and does include education and training in its remit (unlike most of the other West European anti-discrimination legislation which has followed in the wake of the EEC Directive of 1975). The Scandinavian countries have also taken a variety of steps to redefine the statutory terms, planned standards of sex equality which integrate education and training, family law and labour market policies. A range of Commissions and Councils for Equality have come into being in the late 1970's, some concerned with wider issues of equality between the sexes (Denmark, Sweden, United Kingdom, Ireland), others specifically concerned with the status of women (France, Belgium). All are contributing to the acceleration of concern that it is in the area of vocational education that inequality is most deeply rooted, and in which most change needs to occur - for both sexes - if equality in home, work and government is to result.

4.3 Resistance to exposing the education service to the concept of legal rights to educational equality appears however to be stronger than the equivalent concept of a legal right to equal pay or equal work. The Irish Employment Equality Act for example gives the power to investigate discrimination in employment to the Employment Equality Agency set up in 1977 and to take effective measures against discriminatory acts, but while research and educative public work are accepted as proper tasks of the Agency, Ireland has not covered the education service in the legislation and students cannot therefore use legal means to eliminate discrimination in education or to claim individual educational rights. Under the Act however, bodies providing vocational training (as distinct from education) may not discriminate in admissions to or content and structure of, vocational training programmes. Italy has excluded education also from its Anti-Discrimination Act of 1977. The Danish Council for Equality became a mandatory council under the law of 1978 (197) and its terms of reference are "to promote equality between men and women in society, that is

- in the labour market,
- in education and training,
- in family life". (86)

It is buttressed by the 1978 Act on Equality in the Labour Market (198) which was in turn, like the Irish Act, a result of the 1975 EEC Directive on equal treatment for men and women workers. (87)

4.4 The United Kingdom Sex Discrimination Act 1975 does not make discrimination in coeducational establishments unlawful, but the single sex sector is effectively excluded, and girls in single sex schools cannot claim their right to "male" subjects as their peers in mixed schools can. Moreover while the law enforcement provisions for equality in employment are strong (with right of appeal to an industrial tribunal), the education provisions are both legally weak and cumbersome. There is now pressure for a review of the education provisions of the U.K. Act to strengthen and clarify the education provisions. Probably the most influential relationship between a legislative framework and a changing climate of policy and practice, is to be seen in the U.S.A. Apart from the American Title IX of the 1972 Education Amendments Act quoted above outlawing discrimination in federally assisted programmes of education, the Woman's Educational Equity Act of 1974 of the U.S.A. has established a special programme to overcome sex bias in American education and to make money available to remedy sexism or sex discrimination in the curriculum, in teacher training, in in-service education and in counselling. The 1976 Vocational Education Amendments Act of the U.S.A. subsequently reached areas not previously covered. (88) The Act ordered the State Advisory Councils which are responsible for vocational training, to add to their Boards, professional women, or women who are experts in women's rights. Under the Act, institutions of secondary or adult education which offer vocational education or training (which are Federally-funded) have to design plans for counteracting the sex-typing of their enrolments (although there are 200 categories of vocational education in U.S.A., 77% of the enrolled women are in only three areas, secretarial, clerical and home economics...). Moreover the Commissioner of Education is required to conduct an investigation of the extent to which sex discrimination and stereotyping exist in all vocational education programmes assisted under the Vocational Education Act, and of progress made in eliminating discrimination. The Commissioner must also develop a national vocational data reporting system which would enable monitoring of detailed enrolments by race and sex - an important tool both for educational planning and for monitoring equality.

4.5 Two main models of national agencies for promoting equality can be seen to have emerged in the 1970's, the one whose remit and terms of reference are represented as concerned primarily with the status of women only (for example France's Délégation à la Condition Féminine and the Emancipatie Kommissie of the Netherlands), and the other expressly aiming to deal with equality between the sexes and thus to cover the affairs of both women and men, and their interface. In the second category, come the Danish Council for Equality and the United Kingdom Equal Opportunities Commission. The arguments for broadening the base of such government-sponsored Commissions rests primarily on the self-evident fact that equality for women depends on radical adjustment of the responsibilities, roles and privileges of men also. In the light of the evidence above on the greater relative impact of integrated planning in countries like Sweden, Hungary, Democratic Republic of Germany, U.S.A., there seems a strong case for moving towards agencies concerned with equality between the two sexes and with structures which will lead to more interchangeable sex roles, rather than Commissions solely for women's affairs.

4.6 Some form of anti-discrimination legislation has now been approved in all EEC countries and there are few countries in the Westernised sector which have not improved their machinery for looking at social and economic problems of sex equality. While progress is predictably slow in pace, however, there is growing evidence that this re-definition of sex equality in a legislative framework which has been the hallmark of the 1970's, has considerably hastened the pace of change in those countries which have adopted anti-discrimination legislation in at least four respects:

(a) public consciousness has been heightened by the necessary resultant publicity following the new Acts, on the unacceptability of continuing sex inequality;

(b) the need to apply the law has created the need to analyse and to define the characteristics of discrimination and of inequality in education, training and employment;

(c) girls and women have been made aware of rights that they had not perceived to be attainable and have been encouraged by the public mood and by publicity, to exert those rights;

(d) the need for improved research on the causes of sex differences in motivation, achievement, choice of roles has been reinforced, and the range of government-sponsored and academic research has widened and deepened to some extent over the decade, although this is still at a low relative level in proportion to the scale of need.

4.7 Nor is this a question limited to the stage of development of Westernised societies. In writing of the developing countries, Boserup and Liljencrantz (89) are among those who support strongly, a framework for equality backed up by legislation and by administrative measures - and for "leur mise en vigueur" once passed. Changes in the public attitude towards the role of women need in their view to be institutionalised by governmentally-backed entitlements and enabling measures ensuring equal rights with men in every aspect of life. Where equality legislation does not exist, there is little doubt that its introduction is a necessary next step, and where it does exist, it will need constant review to ensure its full effectiveness.

4.8 To set up a legislative framework for equality between the sexes, actions may be taken as follows:

(1) constitution of Commissions and Councils with the term of reference covering equality between both sexes and not limited to women affairs;

(2) revision of all existing legislation in order to introduce anti-discrimination dispositions;

(3) inclusion in the anti-discrimination legislation of all aspects of the education and training service as well as the employment sector if this legislation is to be effective.

4.9 Experience over the decade has been ambivalent in guiding us whether to build in the interim on existing progress in "secure" female areas (sponsoring chicken farming and small business in Morocco when the major work expansion is in petrochemicals) or to take on at the outset the real and ultimate competition for interchangeable jobs in a free labour market against prevailing opposition. We know too little about the successes and implications of different strategies, about the impact of setting up special Commissions instead of units within existing departments and agencies. There can be no blueprint for universal application. There is, however, no country where there is not a need for all Ministries and education and employment authorities to work across sectoral boundaries; and no country that can see progress without some form of national planning for progress.

4.10 Westernised countries may see their priority in in-service re-education and in analysis of motivation, environmental influences and curriculum research and reform. Poorer or agricultural societies may see more urgent priorities in extending basic opportunity and in tackling cultural and traditional barriers. Both however face a crisis of confidence between the declared objectives of educational systems and the real demands of the labour market. Opportunities for girls cannot be created except within the context of structural reform, of an over-academic education system with an imperfect knowledge of the current and future realities of work, economic productivity and recession.

4.11 There is only one missing element needed to set in motion most of the measures needed to remove the barriers outlined in this report: the political will to tackle them. This would release the power to redeploy the resources to which women, who "hold up half the sky" have always been entitled. No research, no diagnosis can write that cheque. That is today, really the issue for debate. It is hoped that this paper will make a useful start.

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(70) Women and World Development, op.cit., p.148.

(71) Africa Woman, No. 21, May/June 1979.

(72) Africa Woman, No. 17, Sept./Oct. 1978.

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(74) Arndt, Herbert et al. Introducing the German Democratic Republic, Verlag Zeit im Bild, Dresden, 1971, p. 18.

(75) Combining Education and Work, USSR, Unesco Regional Office, Bangkok 1978.

(76) Ibid.

(77) Training systems in Eastern Europe, ILO, Geneva 1979.

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(79) Unesco Regional Office, Bangkok, 1978, p.13.

(80) Combining Education and Work, Philippines, Unesco Regional Office, Bangkok, 1978. Graduate here implies any educational qualification and not the university level term as used in Western education systems.

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(87) *Lov om Ligebehandling af Maend og Kvinder med Lensyn til beskaeftigelse*, Lov No. 161 of 12 April 1978.

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(89) Boserup, E. and Liljencrantz, C., *Intégration de la Femme au Développement*, Programme des Nations Unies pour le développement, mai 1975.

Annex A

The Technical and Vocational Education of Women - Statistical Data

Statistical Tables

Table 1 - Educational enrolments (1975), world regions

Table 2 - Secondary female enrolments - selected countries

Table 3 - Ivory Coast

Table 4 - Sri Lanka - vocational and technical enrolments

Table 5 - Indonesia (by type of school and level)

Table 6 - Indonesia (by grade and age)

Table 7 - Turkey - secondary enrolments

Female Illiteracy Statistics - Selected Countries

TABLE 1

Annex A

Education enrolments 1975

Level of education and region		(000's)	Girls as % of total
	Total	Girls	
World			
1st level	367,193	164,520	44.8
2nd level	142.283	61,486	43.2
3rd level	33,284	13,599	40.8
Africa			
1st level	41,843	17,163	41.0
2nd level	7,410	2,552	34.4
3rd level	799	196	24.5
America			
North America			
1st level	29,703	14,452	48.7
2nd level	22,312	11,125	49.9
3rd level	10,935	4,910	44.9
Latin America			
1st level	55,391	27,079	48.9
2nd level	11,467	5,527	48.2
3rd level	3,093	1,218	39.4
Asia			
1st level	149,076	61,317	41.1
2nd level	56,808	20,135	35.4
3rd level	6,905	2,119	30.7
Europe			
1st level	51,325	24,939	48.6
2nd level	32,341	15,712	48.6
3rd level	6,494	2,651	40.8
Oceania			
1st level	2,700	1,273	47.1
2nd level	1,531	738	48.2
3rd level	331	126	38.1
USSR			
1st level	37,156	nfa	
2nd level	10,414	nfa	
3rd level	4,751	2,380	50.1

Source: United Nations Statistical Yearbook 1977, New York. Table 210, p. 892.

TABLE 2

Annex A

Secondary female enrolments - selected countries

Country	Girls as % of all enrolments		Year
	General	Tech./Voc.	
A. With high female enrolments in both general and technical and vocational secondary education			
Argentina	61.6	47.6	1976
Brazil	51.4	43.1	1974
Czechoslovakia	63.6	58.2	1975
Finland	53.7	46.1	1974
F.R. Germany	50.2	56.0	1975
Japan	49.8	45.5	1975
Norway	49.8	46.6	1974
Poland	71.0(sic)	47.2	1975
Spain	48.9	40.7	1974
B. With high female enrolment in general secondary, but lower female enrolment in technical and vocational secondary education			
Cuba	53.5	24.8	1975
Greece	49.0	20.0	1973
Hungary	65.1	36.7	1975
Jordan	41.2	29.4	1975
Mozambique	44.5	30.2	1972
Rumania	65.9	38.4	1974
Singapore	53.3	27.5	1975
Sri Lanka	50.9	33.4	1976
C. With low female enrolment in both general and technical and vocational education			
Egypt	34.8	33.6	1975
Ghana	39.2	21.9	1975
Indonesia	38.9	27.2	1975
Nigeria	34.3	9.1	1973
Senegal	19.6	13.8	1973
Tunisia	33.3	27.3	1975
Turkey	29.2	32.4	1973
Uganda	26.4	2.5(sic)	1975
Upper Volta	30.6	36.3	1975
Zaire	24.5	35.4	1973

Source: United Nations Statistical Yearbook 1977, New York.
Table 2[illegible]0.

TABLE 3

Ivory Coast

Secondary enrolments 1960-61 - 1970-71

(State schools)

	1960-61			1970-71		
	B	G	Girls as % of Total	B	G	Girls as % of Total
1st year	4,031	448	11.1	9,895	3,056	30.9
6th year	292	36	12.3	1,345	319	23.7
Total pupils	10,566	1,317	12.5	38,447	9,578	24.9

Secondary enrolments - private and public sector

	1970-71		
	B	G	Girls as % of Total
1st cycle	44,331	12,476	28.1
2nd cycle	5,012	983	19.6
Total	49,349	13,459	27.2

Primary enrolments - girls, 1946-1970

	Girls as % of Total
1946	18.3
1956	20.5
1966	34.0
1970	36.3

Source: Enquête sur les possibilités d'éducation, de formation et d'emploi offertes aux femmes en Côte d'Ivoire, Unesco, ED/74/WS/13, Paris (5.7.74)

TABLE 4

Annex A

Sri Lanka - Female Enrolments

I	School	Girls as % of enrolments 1970
	Grades 9 - 10 (Arts)	56.3
	Grades 11 - 12 (Arts)	58.9
	Grades 9 - 10 (Science)	41.8
	Grades 11 - 12 (Science)	36.1
	Grades 9 - 10 (Commerce)	46.7

II Technical Institutes, 1973

	% females of total	% distribution of females
Commerce Diplomas	29.3	8.6
Commerce Certificates	49.4	76.1
Technician Courses	10.0	14.4
Craft Courses	0.7	0.7
Total applicants	21.6	100.0

III Enrolments in vocational and technical third level studies

	Females as % of total	
	1966-67	1972
Enrolment in Universities		
Sciences, Architecture	23.8	36.3
Medicine, Dentistry	29.3	41.2
Agriculture	13.7	28.9
Engineering	1.9	7.1
Graduate output, Universities		1970
Sciences	23.6	33.7
Medicine, Dentistry	30.8	33.7
Agriculture, Veter.Science	10.0	16.2
Engineering	1.1	1.9

Source: Educational Opportunities, and Employment Opportunities open to Women in Sri Lanka, Unesco, 1974.

TABLE 5

Annex A

Indonesia

Numbers of pupils by sex, by level and type of school, 1977

Type of school	Male	Female	Total	% Female Enrolment
Primary	9,288,257	7,977,034	17,265,291	46.2
Junior Secondary				
General	1,168,489	859,996	2,028,485	42.4
Economics	63,910	38,864	102,774	38.0
Home economics	1,507	38,256	39,763	96.2
Technical	159,713	9,100	168,813	5.4
Sub-total	1,393,619	946,216	2,339,835	40.4
Senior Secondary				
General	314,200	177,660	491,860	36.1
Economics	101,220	92,021	193,241	47.6
Home economics	-	25,594	25,594	100.0
Technical	213,234	3,576	216,810	1.6
Teacher training	75,797	104,777	180,574	58.0
Sub-total	704,451	403,628	1,108,079	36.4

Source: Keleng Kapan Data, Statistik Persekolahan, 1977, Jakarta 1979, Table 7.

TABLE 6

Annex A

Indonesia

A. Female junior secondary pupils by grade and age, 1977

Age	I	II	III	Total
12	43,811	-	-	43,811
13	123,270	35,766	-	159,036
14	127,920	106,475	33,168	267,563
15	64,721	98,466	93,529	259,716
16	16,365	42,840	74,254	133,459
17	3,528	17,188	40,324	61,040
18	895	3,134	15,659	19,683
19	-	634	3,467	4,101
20	-	-	807	807
	380,505	304,503	261,208	946,216

B. Female senior secondary pupils by grade and age, 1977

Age	I	II	III	Total
15	15,435	-	-	15,435
16	61,203	12,530	-	73,733
17	56,880	50,306	6,980	114,166
18	27,179	47,463	31,669	106,311
19	7,236	20,315	36,617	64,168
20	1,055	5,238	15,805	22,098
21	241	1,200	4,916	6,357
22	-	293	1,067	1,360
	169,229	137,345	97,054	403,628

Source: Keleng Kapan Data, Statistik Persekolahan, 1977, Jakarta 1979, Tables 12 and 13.

TABLE 7

Turkey

Female enrolments in secondary education 1950-74

A. Basic second cycle (i.e. three years from 12-15)

	Female students	Total students	Girls as % of total
1950	15,274	61,847	24.6
1964	114,295	422,693	27.0
1969	201,034	730,205	27.5
1973	283,846	955,525	29.7
1974	296,669	987,954	30.0
Percentage increases			
1964-1974	159.6%	133.7%	
1969-1974	47.6%	35.3%	

B. Advanced second cycle (i.e. for three years after the basic cycle)

	Female students	Total students	Girls as % of all students
1950	3,687	19,022	19.0
1960	34,877	139,796	24.8
1968	78,357	266,215	29.5
1973	141,477	466,246	30.3
1974	162,731	526,905	31.0
Percentage increases			
1960-1974	366.6%	276.9%	
1968-1974	107.7%	97.9%	

Source: Education and Equality of Opportunity for Girls and Women in Turkey, Ministry of National Board of Education, Ankara, June 1979.

Annex A

Female Illiteracy in the 1970's - supplementary data

1. The most worrying scale of female illiteracy remains concentrated in the rural regions of Latin America, in most sub-Saharan African countries and in India and parts of South East Asia. Examples are given here for four countries only. In *India*, the literacy rate is still estimated as only 18.7% of women nationally and 12.9% in rural areas, varying however considerably from different states with Kerala having a rate of 54.3% and Bihar only 8.7%. (1) Jacobsen and Wadley give an all-India literacy rate of 29% male, but 8.5% female with "relatively few village girls attending classes still" (four-fifths of India's population live in rural villages) while "any village girls who are in school are usually taken out before puberty". (2) Muriel Wasi suggests a stronger rural prejudice than in towns against educating girls - in the Uttar Pradesh and Rajusthan districts surveyed in 1971, nearly half (41%) of girls received no primary schooling and only 19% of girls were in secondary (11-14) schools. (3) School population figures for India confirm the causal link between primary enrolment and dropout rates, and adult illiteracy. The literacy rate in 1971 in India was 61.54% for boys but only 32.50% for girls in the 15-24 age group while the percentage of girls enrolled in the school population around that period was as follows:

	1968-69	1973-74 (4)
Classes VI-VIII	27.7%	30.9%
Classes IX-XII	25.5%	27.1%

Clearly the two factors are directly and causally linked. The fact that enrolment of girls in the lower (primary) classes was also still only 66.4% with a concurrent *dropout rate as high as 42%* in some areas makes it unlikely that this position will alter until an *effective* drive for universal and compulsory primary education is successful. Kapur (5) records also that "even after 15 years of independence in 1971 we found that only 18.4% of our female population is literate, and only 30 girls enter school for every 100 boys enrolled, and in *vocational and professional* training, there are as small as only 7 against 100 boys admitted and trained".

2. In *Indonesia*, over half of the women were recorded as still illiterate in 1971 compared with 28% of the men, and by 1976, 49.6% of women had still never been to school. While the primary school enrolment rate has still improved to 46.1% of total enrolments in the first year, in 1976, this still leaves however an estimated 8 million girls and women

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(1) Ministry of Education and Social Welfare, *The Scheme of Functional Literacy for Adult Women*, New Delhi, (?) 1976.

(2) Jacobsen, Doranne and Wadley, Susan S., *Women in India: two perspectives*, Manohar, 1977, p.35.

(3) Wasi, Muriel, *The Educated Woman in Indian Society Today*, Tata McGraw Hill, Bombay, New Delhi, 1971.

(4) Department of Social Welfare, *Blueprint of Action Points and National Plan of Action for Women*, New Delhi, 1977, annex.

(5) Kapur, Promilla, *The Changing Status of the Working Woman in India*, Vikas, Delhi, 1974.

between the ages of 10 and 30 still illiterate. To them must be added as a target group, rural girls who are qualified to go on to secondary school but could not do so because of distance or poverty, and girls and women whose primary education was inadequate or incomplete. The Daroesman report recommends a system of scholarships for rural girls at urban secondary schools, pending "the provision of more secondary schools in rural areas, a policy clearly not being pursued at present". (6) By 1978, the target group for the literacy campaign was 15 million women, mainly in the rural areas, and 26% of the population of 10 years and over was still illiterate. (7)

3. In Sierra Leone, the 1963 Census showed that 52% of girls and women had had no formal education, 33.2% had had some education (34% primary, 31% secondary). But by 1970-71 girls were still only 28.4% of those in secondary (non-vocational) schools and 25.8% of those in vocational schools. (8) A detailed study of the country in 1974, on women's education, training and employment, included an attitudinal survey of public opinion, a survey of 26 educational institutions and the training facilities of 36 firms. Of the sample of respondents in the public opinion survey in 1974 nearly half of the women were illiterate, and the survey estimated an overall rural literacy rate of only 15%. Clearly, universal, compulsory primary education must be a first priority. Botswana, Tanzania and the Ivory Coast are similarly recorded as having substantial female illiteracy.

4. In some countries, female illiteracy on a substantial scale can coexist with a relatively advanced general and vocational educational development of the school sector - usually with the former concentrated in rural areas and the latter in industrialised towns. Turkey, for example, is still predominantly an agrarian country - over half its work force are in agriculture or allied work and 62% of its 40 million people lived in rural settlements in 1973. Turkey has also however a significant industrialised urban concentration in its larger cities. Its long-standing drive for extended education owes much to the egalitarian educational reforms introduced by Ataturk in the late 1920's (which one Turkish writer suggests benefitted predominantly, the daughters of urban middle class parents, a pattern which would of course be mirrored at that time in other European countries). (9) Yet the 1970 census figures suggest that 8.7 million women were illiterate; or 62% of all illiterates at that time. (10) By 1975, Turkey had achieved an overall participation rate of 87.5% in primary education of whom girls were 46.3% (urban areas)

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(6) Daroesman, Ruth, Optimum Participation of Women in Economic and Social Development in Indonesia, for ILO, Jakarta, 1977.

(7) Country report, Indonesia, ESCAP regional preparatory conference, New Delhi, Nov. 1979.

(8) Unesco, Education, Training and Employment Opportunities for Women in Sierra Leone, ED/74/WS/14, Paris, 12 July 1974.

(9) Abadan-Unat, Nermin, "The Modernisation of Turkish Women", in The Middle East Journal.

(10) Ibid.

or 43% (rural areas). This hides however sub-regional and rural urban inequalities of much greater differences throughout Turkey's 67 provinces, and a recent government report suggests that the achievement of universal primary education is predominantly a matter of getting more girls into school each year. At lower secondary (middle school) level, however, only 30% of pupils were girls in 1975. (11)

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(11) Turkish Ministry of Education National Board, Education and Equality of Opportunity for Girls and Women, Ankara, June 1979, p.6.

ANNEX B

WOMEN, THE WORK ETHIC AND THE DUAL HOME/WORK ROLE

WOMEN, THE WORK ETHIC AND THE DUAL HOME/WORK ROLE

1. The basis of educational and curricular planning in most if not all societies over the last hundred years or so and still currently, has been the preparation of boys and girls respectively for different adult roles in which men are prepared for a life of employment with a (female-staffed) support service at home, and women have been prepared for a mainly home-based role with occasional excursions into the world of employment. The purpose of this summary is to provide evidence that the education service has failed to keep up with the reality of social and economic change. The formal equality expressed in education legislation and administration is not translated into de facto equal preparation for the reality of the dual home/work role for both sexes.

2. Women do work

Despite the evidence that most girls are still being prepared for adult life on a basis of dependence on a husband for economic survival, women do work outside the home. Indeed, the trend in the last decade has been for substantial development in both the rate, and the pattern, of women's actual economic activity, which appears very little reflected in educational planning or in guidance and counselling. The facts are irrefutable. There are three separate but inter-related trends :-

(1) a general increase in the ratio of working to non-working women

(2) an increase in the ratio of working to non-working women in the married female population

(3) an increase in the ratio of married to single women.

3. For example, the employment rate of women in the German Democratic Republic is especially high at 83.8%, sometimes attributed to the shortage of young male labour in the 1950's. In the early 1970's special measures were introduced to encourage working women and mothers to become skilled workers (1). In 1977 women were over 38% of the civilian working population of F.R. Germany, France and the UK, over 36% in Belgium, 42.8% in Denmark. Lower rates (below 24%) are characteristic of Italy, Ireland, Netherlands and Luxembourg. (2). Sweden and Finland exceed Denmark's figure - over 43% and 45% respectively. 38.4% of Turkey's women were employed in 1974, accounting for half the agricultural labour force, but only 22% of manufacturing employees. In Bulgaria, also since 1960, women's share of participation in employment in industry has increased from 36% to 46%, in construction from 7% to nearly 16%, in transport from 8% to 27%. The increased entry to "male" areas of employment is one of level as well as of type - the proportion of women in management and administration also rose from 25% in 1960 to 44% in 1978. Between 1962 and 1977, the number of Bulgarian women scientific workers rose from 1,589 to nearly 5,700, that is from 22.7% of this sector in 1962, to nearly 33% in 1977. (3) Recent figures from the United Kingdom's Manpower Services Commission show a steady increase in married women workers in particular. Women now form 38.5% of the labour force in Great Britain, and two-thirds of these working women are married. In 1976, 46.3% of all women were economically active. The proportion of married women in the labour force also increased between 1971 and 1976. It was estimated that in 1975, 55% of married women workers

had children. Much of this was through economic necessity - 660,000 women are heads of one-parent families for example. The wife was working in 54% of all households which included married women. (4). Sixty percent of working women in USA are married; one third of all mothers there work.

4. In the 22 years 1950 - 1972 the percentage of working women in relation to all women rose steadily in the USA (34% to 44%), in Canada (23% to 37%), in Sweden (34% to 60%), in Australia (26% to 37%). (5). In Australia today the percentage of all women who are in paid work has increased by over seventy percent in the last forty years - over 42% in 1974 as distinct from 26% in 1933. Now, two-thirds of Australian working women are married, and 40.5% of married women work. Nor is motherhood an alternative to work - 41% of mothers of one child under 12 were in employment in 1974, 31% of those with two or more and 27% of mothers with children under 6. (6). In 1975 in F.R. Germany, 70% of the 9.6 million women who were working were married, divorced or widowed. Three million working mothers had nearly 5 million children under 15. Put another way, over a third of all married, divorced women or widows were working, and 40% of all mothers with children under 15. Over a third of women work almost without interruption throughout their lives in West Germany, and another third return to work now after a break (or breaks). (7). In 1974, only 10% of all women in FR Germany had never been in employment.

5. European patterns are of course not necessarily matched elsewhere. Fewer than one fifth of Latin America's labour force are women (Brazil, 13.3% of women worker in 1970 - matching the low - for Europe - Spanish rate of 23% and Portugese figure of 18%). In Argentina however, women's economic activity is much higher, although mainly in the urban areas. Nor is the pattern of their working always the same - the Indonesian census for 1976 shows that 33% of urban and 26% of rural women were self-employed but active outside the home - a high figure by Western standards. Economic participation rates are high for the divorced and widowed of whom 75% were working in 1976. Both Argentina and Indonesia confirm the tendency for continued employment to be correlated positively with higher levels of education.

6. Moreover, more of these women now work out of economic necessity. In the UK, one in five of all women is now the breadwinner even by the most restrictive definition. In the USA in 1973, 10% of all white families, 14% of Spanish heritage families and 35% of all black families were headed by women. (This has nearly doubled since 1965). And 20% of all households were of individuals not living with related families (most women over 65 or single women in the bracket 14-34 years of age). Of the female labour force in the USA in 1973, 22.7% were single, 11.1% were separated or divorced, 7.8% were widowed and 21.4% were married but with husbands' income below the subsistence level fixed by the Bureau of Labour for a family of four at that time. Thus nearly two-thirds of working women did so out of necessity. (8). Evidence from such countries as India, Sri Lanka and Ghana, for example, suggests that this is by no means only a Western phenomenon. The increasing urbanisation, industrialisation and social expectation of a higher living standard of many developing countries will extend the 1970's trend for two-income families progressively into the 1980's in those societies.

More qualifications, higher work participation rates and levels

7. There is also no doubt whatever that the better and higher the qualifications gained by girls and women, the more likely they are to work, to continue

working after marriage, to return to work after child-bearing; and the higher or the more vocationally skilled the qualifications, the shorter will be the period of absence from work. In France, Sullerot (9) found that "plus une femme est instruite, moins elle a tendance à interrompre sa carrière" and that those women in her sample of French working women who had a qualification equivalent to or higher than a secondary technical or vocational certificate, were from three to five times more likely to work almost without interruption, or to return to work quickly after a briefer domestic gap. In Sweden also two-thirds of working women have completed an upper secondary course of 3 years or more, and three quarters, two years of third level or post-upper school education of third level or equivalent education. The higher their qualifications, the more likely they were to work and to remain in work. (11). Although in Turkey, the economic activity rate is 38.4%, (1970 figure), in the non-agricultural sector, only 5% of women with primary and 12% of women with middle school education are in the labour force, but the rate increases to 30% for lycée diplomates, 56.2% for those leaving secondary technical and vocational schools and 70% for those with higher education. (10) In Australia, in the mid 1970's, only 25% of women with only primary schooling were in the workforce, 47.6% of those with 12 years' schooling; but 62% of women graduates were in paid work. This does not however take full account of the subdivision of those working women into the relatively small proportion of privileged and highly qualified women with a generalised higher or advanced secondary education and the many who collect in dead-end employment which offers less job satisfaction and career advancement. Hegelheimer for example suggests that in Germany even women who have achieved a qualification by vocational training and remain economically active for a long time, cannot for the most part achieve substantial advancement beyond their initial posts. He, also, attributes this to their shorter vocational training and experience, shorter period of integration into enterprises, the "female" career pattern of a break for child-rearing at the key stages of normal promotion advancement, poorer actual mobility and a poorer positive motivation for a career as a competitor to a strong family orientation. (12)

Women are an economic investment

8. It is often alleged that women are a poor investment because marriage is a terminal female occupation. Much evidence is available to counteract other fallacies, and an essential task for the strategy of all countries in changing the social climate, is to improve the dissemination of the real facts and refute the collected assumptions on which decision-makers either consciously or unconsciously rely. It is often argued for example that it is uneconomic to educate and train girls and women for skilled work because on marriage, they are more frequently absent from work and they are accordingly a less effective return for investment than men. The facts do not wholly bear this out diagnostically. When male and female rates of absenteeism are compared in comparable types and levels of work (e.g. male routine factory workers with female textile workers, male miners with women machinists) the female rates are rarely higher. In F.R. Germany in 1976, female absence through illness was 5% of insured women, male illness absence rate was 5.5%. (13) Absenteeism among miners is high: in nursing very low. The statistics of the Department of Employment in the UK show little difference between men and women in absenteeism, the evidence on rates of turnover of male and female staff was inconclusive and was correlated with the high incidence of women in low paid, routine and low status jobs in which sector male absenteeism is also the highest. A more positive view on the economic investment of training women was taken by a Swedish economist and researcher (14) who calculated in the late 1960's that the Swedish

national income could be increased by some 25% if the unused labour potential of women were to be fully utilised and by some 50% if sex discrimination and other barriers were to be totally abolished. A similar calculation in France put the figure of 35% as the potential rise in the standard of living if women were as active professionally as men using their skills at the level appropriate to their ability.

Men's work, women's work?

9. Education and employers alike still refer to work as suitable for (or restricted to) girls only or boys only and this is used as a basis for dividing vocational preparation for work on a similar basis - to mirror the sex cleavage of the labour market. But there is no universality about about the work that women and men can, or do, fulfil in the labour market, as the following contrasting examples show. Women do work which is identified as "feminine" in one culture and "masculine" in another; and vice versa.

10. In most countries, building and construction are exclusive to men -except for the women in the building and construction trade who are so characteristic a feature of the Indian scene. Again, in Europe and North America, the tramline from school to work for over a third of girls in the middle ability range in some countries leads direct to a secretary's or typist's chair. In India, typing and stenography is a major male employment outlet - indeed, Kapur (15) suggests that before Independence in 1947, office work side by side with men "was considered to be most 'disreputable' and women who took up such jobs were looked down on and were discouraged to do so". Weaving is regarded as female in Africa (16) and in the West European, especially Celtic, countries; but in India, where pre-industrial spinning and weaving were originally male tasks, textile industries have a male labour force - except in a few specific Indian textile firms which started with large numbers of female workers because their first owners were European or under European cultural influence. (17) In Iraq, women work as traffic police officers, in glass manufacture and electricity power houses (18) while 1979 saw the first woman bus driver in Tanzania ("My first assignment was to pull a 12 ton lorry pulling a 12 ton trailer carrying 50 tons of copper") (19).

11. In marketing and distribution - universal activities - more women in westernised countries are heavily concentrated in the unskilled sectors - shop assistants, packers, labellers, (although clearly women in Europe do run businesses - notably in Belgium, the Nordic countries and France) and women at higher levels are mainly in personnel work rather than the control of commerce. But in some African (Ivory Coast, Ghana) countries however and some tribal peoples in Indian states, the control of market trade and retail trade are mainly in female hands, although in North Africa and in typical Hindu Indian communities, the reverse is true and trade is "male" (20). There is also a marked difference between some areas of South East Asia (Java) and Africa (Guinea, Nigeria, Zaire) where market trading has given women an economic role which has led to increased political participation, and countries where women had no such role. In the "trading" countries, more women reach relatively high positions (even if still a minority). It is the corporate organisation of market trading women in Guinea and the Ivory Coast that has given them added political significance. In the Philippines, women have broken through into real estate and stockbroking (the latter, an area only breached by a woman in the UK in the late 1970's). In Jakarta, the jewellery trade is a common outlet for businesswomen. In Thailand, among the Westernised importations have come occupations clearly labelled for one sex where no such sharp distinctions previously existed. "Tailored clothing has brought tailors for men and seamstresses

for women. Nursing the sick is a female occupation, dentistry a male occupation. Garage work, radio or electrical repair are masculine domaines; needlework and preschool education are women's". (21) Thailand is nevertheless an advanced country in terms of women's employment - women are admitted in equal numbers to higher and professional education and are seen in scientific research as well as more traditional fields like medicine.

12. Clearly, the lack of universality in patterns of female work puts the question of innate sex differences further into question. But no excessive physical strength is required for such trades and occupations as optical lens grinder, bookbinder, or for most printing processes. Yet in the decade 1960-1970 women's participation rates in these fields in the USA had still not exceeded between 8% and 15% maximum. Farmer and Backer attribute this to women's poor motivation for craft trades which are still generally perceived in stereotyped terms as dirty and/or dangerous. (22) The evidence presented to the European Ministers of Education in 1979 confirms this trend. (23) At trade or skilled worker levels in the production, transport equipment operators and labourers sector, women account for fewer than 20% of all workers in Europe as a whole, with the exception of Finland (24%, 1975), Cyprus (24%, 1976) and Portugal (23%, 1970). (24) But the fact that a fifth of workers are women establishes their actual capacity to handle such work. In the case of administrative and managerial workers, women represent a sixth in Denmark and Finland, about one eighth in Norway and Sweden, Germany and France, but fewer than 10% in Greece, Iceland, Italy, Luxembourg, Netherlands, Spain, Portugal, Switzerland, Turkey and the UK. In Bulgaria one in two doctors, one in three engineers and one in three university-trained economists, 41% of agronomists are women. (25) This is seen as at least partly causally linked to the high percentage (52%) of girls in vocational (non-domestic) education at secondary level.

The current work ethic

13. The differentiation of expectation for the two sexes is however expressed implicitly in the kind of different economic activity patterns girls and boys are guided to expect even if both expect to work. The relationship of vocational education and vocational guidance for girls to the current social and economic perception of the work ethic is indissoluble. The industrialisation of the 19th century in Western countries has had the negative effect of attaching certain apparently ineradicable values to the concept of paid or salaries fulltime work which make the structure and characteristics of "work" extremely inflexible to social or educational change. These value judgements and assumptions have been translated into the structure of vocational education and training and into the philosophy of guidance and counselling, as immutable and unchangeable (although a few countries like Sweden are now beginning to develop adjustments and alternatives which relate home and work patterns more closely). The current work ethic can be illustrated diagrammatically :-

Characteristic	Plus Factor	Social Value Perception	Minus Factor	Characteristic
Fulltime	+	Normal	-	Part-time
Constant	+	Respectable	-	Intermittent
Paid	+	Skilled	-	Unpaid
Organised	+	Valued	-	Individual
Institution-based	+	Secure	-	Peripatetic, self-employed, extra-institutional.

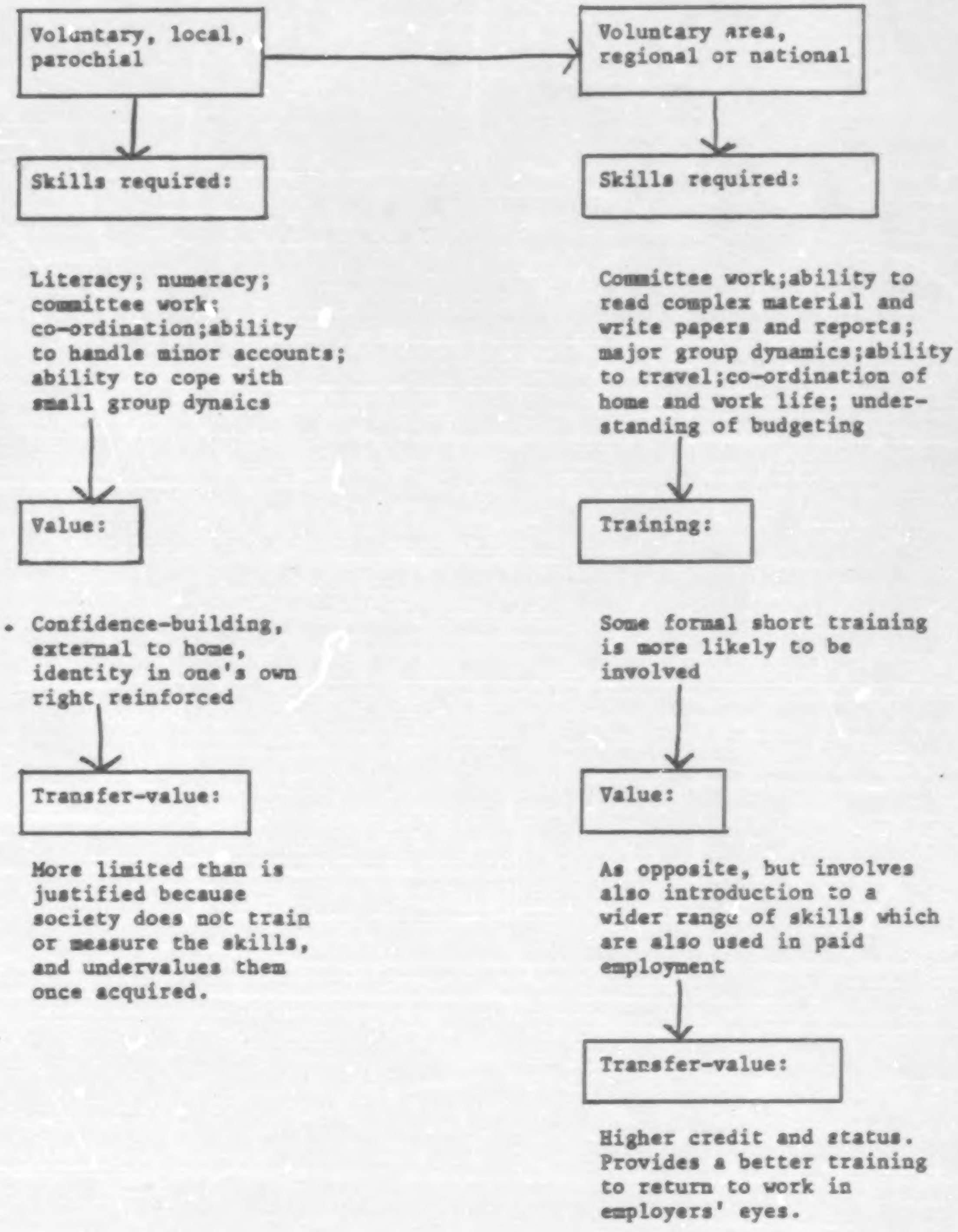
The chart illustrates society's perception (centre) of the value of different work characteristics. Fulltime work is more normal, respectable, secure and valued than part-time work which has a substantial minus factor in real terms as well as in social value - it is not pensionable, rarely carries security of tenure, is undervalued and therefore underprotected by trade unions of which proportionately fewer part-time than fulltime workers are members (cause and effect in a vicious circle). Constant work is more respectable as well as normal for males - intermittent work is questioned (hence the loss of identity and social maladjustment as well as economic problems which follow loss of work and unemployment) but is regarded as a female norm - whether or not women have young families. Work which is organised and institutionalised (offices, factories, businesses) is valued more highly than individual, self-employed or entrepreneurial work, and carries more rights and protections, tenure and security than peripatetic or extra-institutional work. Paid and salaried work in fact, whatever the theory, is socially valued more highly than unpaid or voluntary work regardless of the nature and scale of either.

14. If we then superimpose a male:female antithesis on the model, the sex-segregation of work structure for men and for women becomes as sharp as the sex cleavage in what kinds of work they are considered suitable for and in which they are a majority. Three-quarters of part-time workers in most industrialised societies are women. Intermittent work (ie with one or more gaps of a year or more)is regarded as normal for all women except single, never-married women who are expected to adopt the male norm of constant or fulltime work (whatever their economic circumstances which usually do of course require this), once society decides they are spinsters and not waiting for marriage. That is to say, there is resistance to training single women, investing in them or giving priority to them over men even if they are gifted, motivated or trainable, when they are in the age bracket 16 to about 25 (the crucial years), because they are expected to marry and look to husbands for their first support. Only when single women are perceived as "career women" in their late twenties or thirties do they tend to qualify for some of the value, and therefore investment, of the plus side of the above chart. The point is important, and rarely fully recognised, because in the guidance and counselling stages of adolescence, in the planning of training facilities and selection processes, the "waiting for marriage" social expectation which presents a female work ethic of part-time or intermittent work to trainers and young people alike, is applied to 100% of girls and young women, thus depriving the future female breadwinner of the same full educational and training investment which one in five or more at least (eg UK, USA) will need.

15. It will be noted from the work ethic chart above, that unpaid work is designated as less valued/skilled etc in social and economic terms. It is also predominantly female and falls into three categories. The first is the much discussed home-based domestic work on which a public debate has arisen in many countries, in the context of "wages for housework". That is not discussed here, other than to point to the danger that such a policy would merely reinforce women's enclosures in a home role and divert resources from expansion of child care and other support measures for working mothers. Moreover,these, and single women, could legitimately claim equal allowance since they do no less housework but merely extend their 8 hour day to 12 to cover domestic work.

Considerably underdiscussed however, are the remaining "unpaid sectors" in terms of vocational preparation and of economic contribution to development. The second category is that of voluntary work in the *local community* of an external and *organised* kind (organising voluntary welfare services, helping to provide adult education or youth services, helping the handicapped, running the Parish or local Community Council, providing social and recreational activities). The third consists of external *major organised* work at county or municipal , at regional or national level (local government, parliamentary work, Justice of Peace, magistrate, helping with voluntary hospital services, organising private hospital car transport to supplement state provision, providing a network of services for the elderly, voluntary social work). The chart overleaf of this pattern of activity (which is mainly female) illustrates this.

FEMALE UNPAID WORK OUTSIDE THE HOME



Voluntary, local, parochial

Skills required:

Literacy; numeracy; committee work; co-ordination;ability to handle minor accounts; ability to cope with small group dynaics

Value:

Confidence-building, external to home, identity in one's own right reinforced

Transfer-value:

More limited than is justified because society does not train or measure the skills, and undervalues them once acquired.

Voluntary area, regional or national

Skills required:

Committee work;ability to read complex material and write papers and reports; major group dynamics;ability to travel;co-ordination of home and work life; understanding of budgeting

Training:

Some formal short training is more likely to be involved

Value:

As opposite, but involves also introduction to a wider range of skills which are also used in paid employment

Transfer-value:

Higher credit and status. Provides a better training to return to work in employers' eyes.

The point at issue is the omission of this known pattern from vocational education, and its omission from careers education and guidance programmes. There are few if any societies which could survive without the unpaid voluntary services, charitable organisations, community workers and supplementary welfare provision which fills the gaps the State cannot provide (or which can provide a service in a more flexible and acceptable way responsive to local or special needs). The hidden (female) subsidy of this quasi-professional work, of which the majornon-governmental organisations are a significant element, to the economy of most societies, is substantial.

Employment or unemployment?

16. The chart of the work ethic outlined above, suggests that most societies however, still question women's need, or indeed their right, to work (a) fulltime (b) constantly and (c) with security. Those who doubt this, need to look at the other major trend of the 1970's - disproportionately rising female unemployment which is disproportionate also to the degree of normal economic activity in each country. The worsening economic climate and the changing structure of industrialised employment (increased technology, the effect of micro-processors, the decline of traditional industries like textiles, ship-building and craft level engineering, and steel production) have produced a scale of unemployment in the West which has brought to the surface again a longstanding controversy central to women's opportunities. This is the perceived "competition" from women for employment when male unemployment is high, although no reverse competition is seen to operate when men move into female fields in times of high female unemployment (clerical, nursing, distribution, catering). Sullerot attacks the "competition" assumption, "the underlying assumption that if women did not compete for work, there would be no unemployment is completely unfounded, as a study of female unemployment in various countries will show". (26) Reports have begun to appear in the West arguing male priority over female until all unemployed men are re-employed.. But an example from the USA shows that the statistics do not match. In 1973 there were 19.8 million married women (with husbands present) in the labour force, and 2.5 million unemployed men. Even if all the unemployed men had been placed in the women's jobs (assuming an unlikely matching of skills) there would be a shortfall of 17 million or so. (27) A similar exercise for other countries, even with higher unemployment, produced an imbalance of the same scale.

17. Women are now disproportionately represented among the European unemployed. In Germany, France, Belgium and Luxembourg in 1978,female unemployment rates were running 20% higher than the rate of female economic activity, in Italy 10% higher. (28) The female unemployment rate is moreover steadily worsening both in absolute terms and in relation to the male unemployment rate which in EEC countries has, conversely, slightly improved over the last two years. The overall rise in unemployment in the Community between 1978 and 1979 is wholly accounted for by a 5.6% increase in female unemployment while male unemployment decreased by 2.5% in the same period. (20) In the UK, female unemployment rose as a percentage of total unemployment from 16.2% to 29.4% over the six years 1973-78, far faster than the rate of unemployed men, and the trend continues. Equally disturbing for the future of girls, is the fact that this is even more marked for younger age groups - over 50% of unemployed school leavers are female. (30) There is significant and growing evidence from a recent (not yet published) EEC survey on transitio from school to work in regions of disadvantage, that unqualified school leavers and those with qualifications given a low rating by employers, are

more highly represented among the unemployed. Girls, in a number of countries, are finding their academic/general, or their domestically-oriented education, therefore, much less marketable. Thus, the vicious circle which has developed is that girls are seen to need less training for employment because female fields carry fewer skills and fewer avenues of training and career progression or because they are perceived to need employment the less. But without improved vocational education and qualifications, they continue only to qualify for lower level and restricted employment, or to face higher risk of unemployment.

Marriage, the dual role and domestic responsibilities

18. The complexity of the marriage/home/work interaction, while common in fundamentals, is so diverse in relation to countries at different stages of development, to different cultures and religions and to different social traditions that it requires a report of its own. This section can do no more than touch the surface of some of the main aspects which have been seen to act especially to women's disadvantage in education, training and employment, as a backcloth to the recommendations in the final section. Two main aspects are of widespread significance:

(a) child marriage or early marriage *

(b) the dual role once married.

Formerly, the point at which women withdrew from the labour force was at marriage, in the industrialised countries. This was partly for quasi-legal reasons - a marriage-bar operated in many employment sectors, notably the professions and white-collar work which obliged women to resign on marriage (on the assumption that they were now dependent on husbands for support). It was partly the socialisation process - there was a perceived social status in being a fulltime wife. In the case of those in unpalatable factory or manual work, it was rather, a relief from drudgery. With the removal of the marriage bar in most countries, the rising cost of living and the consequential need for two incomes, and the improved and wider job opportunities compared with the 1920's and 1930's (partly although not wholly as a result of the variety of occupations filled by women in World War Two), the withdrawl from work in Westernised countries is more often now later, at the birth of the first child.

19. In Westernised societies early (as distinct from child) marriage for girls is highly correlated with lower ability and lower school orientation. Boredom with a curriculum seen to be irrelevant to their future lives is the cause of most premature leaving. This has traditionally been the rationale behind domestic education for girls, despite the fact that lower ability girls tend to marry into the lower socio-economic groups and therefore are highly likely to return to at least part-time work for economic reasons. The 19th century textile industry, the lace industry, and the 20th century food, drink and tobacco industry which has trebled in postwar years, have been always built on cheap female labour from the lower socioeconomic groups. Early marriage acts as a barrier to the less able girls in dissuading them from taking on a lengthy training or a fulltime long vocational course, and reinforces their tendency to seek vocational outlets suitable for part-time work.

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* with which can be associated premature leaving by girls, but not boys, to cope with domestic family duties within the parent family.

20. What educators have failed to recognise and failed to teach these girls, is the implications of early marriage for their longterm futures. Women have not only tended to marry younger, but to raise families younger and therefore return to work (a) younger and (b) in increasing numbers. Marriage at 17 years means that even with 10 years for caring for young children, return to work in the late 20's will be possible, giving over 30 years of working life ahead. Darling refers to the pattern of women's careers as an M-curve, the centre of which is the period in which women are having and bringing up children. (31) It should be noted that the M-curves vary significantly for different countries - the Scandinavian countries have relatively flat M-curves (ie the childbearing gap is very short) because of a long tradition of working women in Nordic countries. The structure of employment is however still based on a male career curve, ie men come up to a peak of efficiency and skill from about 28 to 38 years, and mostly then remain in secure and relatively skilled or advanced situations. Women are more likely to break between about 23 and 30, in which case they have nearly a ten year time lag behind comparable men in occupational skills and experience. A new pattern has begun however to emerge in the 1970's in some European countries in which young women work till their late 20's, reach a good position, but then break for child rearing in the period 29-35 or so (a now growing tendency) thus still deferring consolidation of work skills until their late 30's; but from a higher base when they break employment.

21. Either of these patterns presupposes the social expectation of female economic independence. It is here that different societies and countries vary so greatly as to require individual integrated analysis not possible here. In general terms, it is possible to say that the extent to which societies will plan for, and allocate resources to, the integrated development of national policy for adjusting sex roles and responsibilities in the home as well as in work, depends on both the pace of changing public, cultural (and in some respects, religious) opinion on the right of women to work, the right of men to play a major role in homemaking and the fusion of these in partnership; and the extent to which the government and other leading sectors of a society will choose to promote an acceleration of changing opinion. It in turn determines the extent to which domestic and parental education is taught only to girls, or to both sexes, and hence influences later marital behaviour of school leavers.

Dependence or independence?

22. The "dependence" aspect of marriage is relevant not only in the economic context of the alibi it has provided for under-educating a woman in vocational skills, but because it reinforces her availability for male domestic support - a concept suppoted of course by many women. Alexandra Symonds calls it "woman's declaration of dependence ... so that they can quit work and be taken care of ... their opportunity to be dependent without self-criticism", (32) where women prefer the dependency of home to the unpalatable option of the often unattractive, routine and often fatiguing work which is the lot of the less educated, the less trained or the less intellectually gifted girl on leaving school. For again, the social class variable is extremely strong here. A Frenchwoman, one of the earliest post-war articulate feminists, declared thirty years ago "a woman supported by a man is not emancipated because she has a vote; ... It is through gainful employment that woman has traversed most of the distance that separates her from the male ... the system based on her dependence crumbles; between her and the universe there is no longer a need for a masculine mediator", (33) and this is now reasonably characteristic of advanced European and North American opinion.

23. It is now a decade since the Swedish government reported to the United Nations in 1968 in response to Resolution No.1133 (XLI) of the Economic and Social Council concerning a longterm programme within the framework of the United Nations aimed at raising the status of women (and in the developing countries as much as in Sweden itself).The Swedish Government spelled out its deeply held view that "the view that women ought to be economically supported by marriage must be effectively refuted - also in the legislative field - as this view is a direct obstacle to the economic independence of women and their ability to compete on equal terms in the labour market. Similarly the husband's traditional obligation to support his wife must be modified to constitute a responsibility shared with her for for the support of the children. This concern for the children should also be manifested in a greater degree of participation in the supervision and care of the children on the husband's part". The government accepted that (in 1968) the view might appear unrealistic and perhaps even revolutionary to some countries. Scientific research however, on the roles of the sexes and on the need for children to have more contact with fathers as small children, had highlighted the concept of paternal deprivation, in terms of child development, (that is, children need to have more daily contact with fathers). Another stage of this was the reverse of women's status - "male emancipation" or the right of husbands to be the principal home parent if the mother were the more appropriate to remain in gainful employment. As is seen in the main report, this policy has been carried through into the education system.

24. On the other hand, the Turkish Civil Code, in line with its Swiss prototype, does not propose absolute equality between husband and wife. Nermin Abadan-Unat comments that "the husband is the head of the family, the wife must follow the husband who alone is entitled to choose a domicile ... The wife is required to participate in the maintenance of the household by assuming tasks in the household. If the wife wants to practice a profession, she has to obtain the open or tacit consent of the husband ... " (34). This can be seen to be reflected to a large extent in the pattern of organised education for Turkish girls but not boys which places their homemaking function relatively higher than their vocational skills in the curriculum (in common with many other countries).

25. Outside Europe, it can emerge even more sharply. Oppong (35) writes of the Akan in 1973, that "the marriage transfer gives to the husband ... claims to the domestic services of his wife, and to the wife, rights to economic support for herself and her children". It is especially important perhaps to stress that the concept of economic independence for women should not be interpreted as a shelving of male responsibility for family maintenance, especially of children in those societies without advanced social security systems. Claire Robertson (36) writes of the dangers for countries in Africa of "half a policy". That is, the education of young women which has loosened their reciprocal economic bonds as daughters with their mothers (in a matrilineal society) in Ghana, for example, has given them economic independence but has weakened the kinship obligation for support. When husbands - whether in patrilineal or matrilineal cultures - see the financial independence of wives who earn,as total acquittal of their male family obligations, wives may have neither marital nor kinship support for children who in Africa, are costly to educate relative to average family income (especially at secondary and higher levels). The concurrent lower status and pay of female employment in Ghana, even in urban Accra, leads Robertson to see dangers that the modernisation process may simply reinforce the Ga

cultural bias towards belief in male superiority, and leave women with neither male support nor equal economic independence. In Nigeria also for example, the traditional network of family and kinship persists in rural areas, but is breaking down in urban areas, making it necessary to redefine the family's role in educating and caring for preschool and young children. (37)

26. Kapur (38) suggests a quickening change in attitudes in Indian women and men in relation to the dual role - whereas previous studies in the 1960's showed men as "continuing to feel they would be moving to lower levels of work if they helped their wives in household jobs,". By her 1970 study "by and large, educated wives do not expect and want their husbands to share in the household duties Kapur also found that for example, the employment of a married woman did not of itself create marital maladjustment - couples who were well adjusted before the woman took un employment tended to remain so. Jyoti Barot replicates this - female fulltime work did not adversely affect marital happiness in her study (39). Oppong, in the Ghanaian study, saw good parental example and level of education as also correlated with easier adaptation to changing sex roles - "There is a further indication of the likelihood of the absence of strain amongst those whose parents and even grandparents had the benefits of education and salaried employment ... couples with accumulated experience from the past, from their educated parents, are less likely to enter such tension-prone situations than are first-generation educated 'newcomes' to the salary-based life of the city ..." while "The husbands who had both educated fathers and grandfathers were more likely to be playing an active part in housework and child care".

27. Added problems of lower socioeconomic groups

The dual role problems facing the lower socioeconomic groups differ radically from those facing middle class or professional women who can afford domestic help (other women ...) or who live in societies where kinship patterns or extended family patterns still provide unpaid services. Sheila Rowbotham summarised it as "In isolation the individual woman who passes over into activity is bound to define herself at the expense of other women. This is apparently at the level of class. The freedom of the emancipated upper class woman is simply the other side of the unfreedom of the working class woman who supports her". (4) In writing of Indonesia a decade ago, for example, emancipation was for many inevitably built on this - as elsewhere:-

> "As to the younger generation, the change in women's roles in the family has been fundamental. The duties and rights of men and women, of boys and girls in the family have been drawn closer to each other and made nearly equal. I say "nearly" as differences still remain although they are not fundamental. The bulk of household duties still remains with the women as does the main money-earning duty with the men ... In short, boys and girls are taught to share household duties and to help their parents in the home ... A job, combined with the difficulty of obtaining good servants, makes life very busy for the working mother." (41)

The writer is from the upper class, wife of the then Minister for Foreign Affairs, and herself a Senior Officer in the Ministry of Health. Unlike the Polish peasant woman, she can order food from caterers to save time cooking. "From three to five different dishes are sent home every day." Most of the Asian women in the early 1960's who had taken on a new external role as the first generation to do so revealed three correlated characteristics: they were all of middle or upper class origins, of intellectual ability to profit from higher education or a professional equivalent, and they had all had educated parents. Thus it is also necessary to see changes for girls, in the context of adult education for parents and local communities in changing social and sex roles. (42)

28. Again, the ladder up both the social class scale as educated higher status wives in urbanised Africa and up the education scale in terms of freedom for further professional training, for the first or second generation educated Ghanaian women in Oppong's survey of top civil servants in Ghana was built on a constant supply of kinship young women from the rural hinterland as domestic servants. Echoes of 19th century England are traceable even if in modern form. Without this form of support with child care and domestic duties however, the educated Ghanaian women could not have become independent("the majority continued to work, in particular those with vocational training"). Urbanisation for middle class urban women meant more education; but for the village girl it means a form of domestic service to release the more intelligent or (acquired) higher class kinswoman.

The dual role for single women

29. The important problem of the single woman, is regarded as a minority and therefore irrelevant one and is therefore rarely if ever discussed. The employment/housework debate has tended to centre on the responsibility for children. Yet education in the difficult task of running a full home as a single working woman is just as important, notably since in a number of West European countries, the considerable majority of elderly dependents or handicapped relatives are cared for in the same household by single women (much more rarely by married women and very rarely by men). Nor is single status necessarily a permanent one - but it is a lengthening period for which girls are ill-prepared either psychologically or practically. It is indeed widely assumed that the dual home/work role is limited to those who are either married or mothers. In some modern societies however, up to 10% of women choose to remain single and develop a career for most of their life. Secondly, with the postponing of marriage in many Western cultures, often to the late 20's or early 30's, girls may live a single life for from 10-15 years before becoming a family woman. More and more women - and young men -are living independent lives in flats or shared houses (rather than with families as personal independence becomes a widespread social norm for late adolescents). Even in less industrialised countries, the trend is noticeable. "The number of women living singly .. and in economic independence is one of the most striking characteristics of Africans in towns in contrast to rural areas". (43)

30. Part of the undertreatment of this area is because of the social unacceptability of unmarriage which is regarded as failure, or as deviance, or as evidence of lack of "femininity" because marriage is held to be the desirable norm; and partly because the longtime unmarried are a minority. A Swedish handbook written for teachers, counsellors and youth leaders expresses this very clearly:- "There is also a tendency in our own society to look down on those who, for various reasons, live without a sex partner. The teacher should combat this sort of superficial and discriminatory attitude, pointing to the self-evident fact that a person can find community, meaning and a content for his or her life, even if he or she is in one sense 'alone'". (43) This is a reflection of the perceived social status attributed to marriage in all cultures. Writing about Ceylon, now Sri Lanka, in the early 1960's, Siriwardena suggests that "a spinster is despised, for marriage is held to be the right goal for women ... Problems of this kind are a nuisance to a working girl who has chosen to stay single for her own reasons", (44) and several of the more recent Indian case studies still refer to social

and kinship difficulties of girls who remain unmarried for longer than the social norm. Homemaking for this group is especially difficult. Family law assumes a norm of two parents and children. A social unit of two single women (or men), one single person, fits neither into society nor to the support service structure. At the point at which women realise they may in fact face life permanently alone, they are likely to be too late to take on vocational qualifications, to improve their economic independence.

31. Formal equality or factual equality?

As in analysing educational practice, there is still a difference between society's or men's conception of "role-sharing" and the actuality. We saw in the main report that in D.R. Germany, the stated objectives of education included a full economic and social role for both sexes. It is interesting to see from an American study that Professor Suzanne Shafer suggests that "the Government of East Germany and its educators are troubled by their realisation that women continue to grapple with their comples roles ... mothers, workers, citizens.... East German husbands are known to have complained in divorce courts about wives who are never home or who shirk their duties of washing the husbands' socks and shirts". (45) The resultant argument that the secondary school "fails to prepare girls for each role without encountering conflict in their lives" unaccountably assumes that only girls still must prepare for domestic life. No doubt if the East German Government educated all boys genuinely and thoroughly in the social and personal expectation that they must also learn to cook, to mend, wash their own and their family's clothes and to care for children, their shared home role as well as a shared economic role would remove one such conflict? But Rickert comments that "people waver between the policy of strengthening the family (eg by childcare support services), and that of generally bringing up children in boarding schools". (46) Opening up technical education for girls may open up technical employment for girls; but it will not, even in a socialist and centralised system, necessarily free women for responsible, senior and top positions in employment unless their husbands are also educated in school to fulfil their full share in the home as a similar "vocational duty of every citizen".

32. In Austria, also the new family law passed in 1975 on the legal relations between spouses, reinforces the concept of joint decision-making on the division of tasks to be performed within and outside the family - and both partners are legally held responsible for household and family functions. This is not always however followed by a realistic adjustment of male responsibilities. A survey in the early 1970's confirmed the double standard of Austrian society's (and men's) expectations of working women and working men respectively. The Austrian microcensus of June 1973 into family relations examined the participation rates of wives, husbands and children in five main household tasks: shopping, washing dishes, cleaning the home, shining shoes and doing household repairs. The figures are differentiated by workdays and Saturdays, and by fulltime working, part-time working and not working at all (ie not in paid employment). Men, whatever their or their wives' working status, were only prepared to take from 13% - 15% of the shopping and shining shoes; and at no point more than 5% of home-cleaning (even when men were part-timers). Men's acceptance of 85% of work in household repairs (intermittent and essentially a sporadic weekend task) is in no way comparable with the daily and constant dishwashing, home-cleaning and shopping of which women did 85%. Interestingly where women in paid

employment were able to shed some household tasks, the statistics show that the work was transferred to the children and not to their husbands. (48)

33. The secretary of the Soviet Committee of Women in Moscow accounts similarly for the lower proportion of women in political leadership (notwithstanding Russia's one third female membership of the Supreme Soviet in 1970) by their dual role - men have the time because women still cope with housekeeping and children as well as work. "Un grand nombre de ceux qui furent appellées à se presenter aux elections, refusèrent de poser leurs candidature en raison de leurs obligations familiales". Elena Shibarina went on to argue for more effective sharing of domestic responsibility if women were to be more active in politics, as distinct from work. (48)

New trends in social provision for families

34. There appear to be three broad groups of Westernised countries who have begun seriously to tackle the dilemma of whether one provides for women to play a major part in economic development by encouraging her to work, or whether women should be encouraged to remain at home in the longterm or whether the two are sequentially inter-related. The socialist countries have a planned policy of high female economic activity and a proportionately high investment in network support. The Scandinavian countries encourage women to work, have an integrated family/work national policy but encourage freer choice for both sexes of interchangeable sex roles in home as well as work. The third group includes countries like France, Germany, UK who have begun to tackle the problem in a more piecemeal manner without completely integrating at national level, educational policy, employment policy and family law. Non-European, non-industrialised countries vary equally and rely much more heavily on both private (not necessarily trained and qualified) facilities and (heavily) on voluntary organisations (Trinidad and Tobago, India, Nigeria).

35. In both Hungary and Czechoslovakia, substantial child care allowances are paid to mothers who stay at home to care for their children for up to the first three years. Hungarian national policy with regard to working women is designed actively to encourage women to take on and continue in a dual role as a productive member of society and as a mother. The rationale is threefold: to move towards full equality for women in all spheres, to encourage women to have children to raise the birthrate, and the need to expand the labour force. Measures include a child care grant payable for up to 3 years from childbirth (in additional to normal family allowances) of up to 50% of the average salary in the younger women age band. The original employment is kept open for the mother to return to at any time within three years. There are substantial employment protection laws and special leave for domestic crises (one unpaid day a month with two children, paid leave with 3 or more under fourteen). A wide range of crèches, nursery and kindergarten provision supplements the family law entitlements, with trained and specialised staff and preschool education (as distinct from child minding) is highly regarded and relatively highly resourced. Integrated planning is further ensured, by legislating that every new housing development of a certain size must incorporate creche and nursery facilities. (49)
It is interesting to see that the correlation of the higher the educational level, the more likely women are to work and stay in work, is borne out by the use of Hungary's child grant. (50).

Percentage of mothers breaking employment with childcare grant by educational levels

	Primary	Secondary	Higher
1969	77.3	65.3	34.4
1973	81.1	76.4	56.2

Thus the lower the educational level the lower the work motivation (or the higher the home-drive). This is predictable - the more qualified have more interesting work, more responsible work and would be less easily replaced: would have a greater job satisfaction. Audrey Hunt confirms this tendency in a survey of 15 year-old girls in the United Kingdom. (51) - low achievers and aspirers among school leavers were interested in early marriage and boy friends, uninterested in careers and oriented towards traditionally female roles (after 5 years of school homecraft this is hardly surprising). Their job prospects were of course less attractive than high achievers and aspirers who wanted careers of their own, to marry later and who questioned traditional ideas on women's role (in the UK, grammar school or advanced academic girls are discouraged from domestic science after an introductory course as soon as public examinations make curricular demands and their preconditioning is therefore also weaker).

36. In Sweden, the logic of the declared national policy of the right to and need for interchangeable sex roles has been implemented in many ways. One father in ten makes some use of the law entitling nine months parental leave following the birth of a new baby, - limited to mothers until 1976 when the law was changed to include fathers. Use of the media has helped - posters with fathers holding babies "of course we share the parents' leave". In 1978 the Parliament passed a new law allowing parents with children under 8 years to reduce their working time to 6 hours and then later to revert to fulltime. (52) This is partly to help to alter the current work structure in which it is almost exclusively women who work part-time. Swedish research confirms the general picture as the Austrian survey however - that 74% of men with working wives never cooked a meal, 63% never did laundry and 55% never shopped, in a Swedish sample (although the participation rate of men who did these three is higher than in most countries). In a sample of 7,500 families, of those where men and women were living together and women are fulltime employed, 18% of men and 51% of the women worked 20 hours a week or more on child care and housework as well as in their employment. Sweden has child care facilities for 165,000 children out of 320,000 who need them. Although accepted by Sweden as not enough, it is nonetheless a high West European rate. (53)

S U M M A R Y

In terms of women's activity outside the home, there has clearly been a steady trend of expansion in both quantitative and qualitative respects, over the last decade or so. There is ample evidence to justify teachers, trainers and counsellors to encourage girls to pursue longer vocationally-oriented studies in a wider range of occupational areas, since on the evidence from one in three to one in five of girls sitting in today's classrooms will either wish to, or have to, work in adulthood (whether married or single). Nor does the evidence justify using (out-dated) concepts of innate psychological or physiological sex differences as a basis for continuing to designate sectors or specific employment or home tasks as "male" or "female". Hence sex-segregation of vocational preparation is equally unjustified.

Vocational or non-vocational preparation?

The questions raised for educators by this changing and constantly developing social and economic pattern affect not only the structure but the content of educational preparation of girls - and boys - for work, home and civil life. There are strong arguments for the educators of each nation to look at its educational preparation for employment and for work of an unpaid nature which is nonetheless civically and economically important, in direct collaboration with their colleagues responsible for family law reform, for social services and welfare and for employment. The strong impression given by the collated educational, and the social and economic evidence, is that there is a mismatch of objectives which may be in danger of widening, not narrowing, the sex gap, if not corrected.

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